

Chapter 17.25

FLOOD DAMAGE PREVENTION ORDINANCE

Sections:

- 17.25.010 Statutory authorization, findings of fact, purpose, intent and methods.
- 17.25.020 Definitions.
- 17.25.030 General Provisions.
- 17.25.040 Administration.
- 17.25.050 Provisions for flood hazard reduction.
- 17.25.060 Variance procedures.

NOTE: Under the National Flood Insurance Program (NFIP), a Community Rating System (CRS) has been established based on a tiered class rating that allows for increased development standards to improve flood damage protection, in return for decreased insurance premiums for the property owner. The proposed Ordinance is based on the minimum rating (Class 10) required under the NFIP. For the Board’s consideration, optional language is added after appropriate sections in the Ordinance that will allow the County to receive a CRS rating of Class 8 or 9, resulting in a potential premium savings of up to ten percent for those property owners within a special flood hazard area.

17.25.010 Statutory authorization, findings of fact, purpose and intent.

- A. **Statutory Authorization.** The legislature of the state has in Government Code Sections 65302, 65560, and 65800, conferred upon local governments the authority to adopt regulations designed to promote the public, health, safety, and general welfare of its citizenry. Therefore, the Board of Supervisors of El Dorado County does hereby adopt the following floodplain management regulations.
- B. **Findings of Fact.**
 - 1. The flood hazard areas of the County are subject to periodic inundation, which could result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for 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 uses that are inadequately floodproofed, elevated or otherwise protected from flood damage. The cumulative effect of obstructions in areas of special flood hazards that increase flood heights and velocities also contribute to flood losses.
- C. **Purpose and Intent.**
 - . It is the purpose of this Ordinance to implement General Plan Policy 6.4.1.1 requiring continued participation in the National Flood Insurance Program in order to promote the

public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas. This Ordinance serves to provide legally enforceable regulations applied uniformly throughout the community to all publicly and privately owned land within flood prone areas. These regulations are designed to:

1. Protect human life and health;
2. Minimize expenditure of public money for costly flood-control projects;
3. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
4. Minimize prolonged business interruptions;
5. Minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines; and streets and bridges located in areas of special flood hazard;
6. Help maintain a stable tax base by providing for the sound use and development of special flood hazard areas so as to minimize future blighted areas caused by flood damage;
7. Ensure that potential buyers are notified that property is in a special flood hazard area;
8. Ensure that those who occupy the special flood hazard areas assume responsibility for their actions.

D. Methods of Reducing Flood Losses. In order to accomplish its purposes, this Chapter includes regulations to:

1. Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which 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, which help accommodate or channel floodwaters;
4. Control the filling, grading, dredging, and other development which may increase flood damage; and
5. Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

These regulations take precedence over any less restrictive or conflicting laws, ordinances or codes.

17.25.020 Definitions. Unless specifically defined below, words or phrases used in this chapter shall be interpreted so as to give them the meaning they have in common usage and to give this Ordinance its most reasonable application.

"**A zone**" – Area of 100-year flood where base flood elevations and flood hazard factors have not been determined.

"**A1-A30 zones**" – Area of 100-year flood where base flood elevations and flood hazard factors have been determined.

"**Accessory structure**" means a subordinate building or structure detached from the principal building or structure on the same lot and incidental to the principal building.

"**Accessory use**" means a use which is incidental and subordinate to the principal use of the parcel of land on which it is located.

"**Appeal**" means a request for a review of the Floodplain Administrator's interpretation of any provision of this Ordinance.

"**B zone**" means areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one foot or where the contributing drainage area is less than one square mile.

"**Base flood**" means a flood having a one percent chance of being equaled or exceeded in any given year (also called a "100-year flood"). Base flood is the term used throughout this Ordinance.

"**Base flood elevation**" (BFE) means the elevation shown on the Flood Insurance Rate Map for Zones A1-30, that indicates the water surface elevation resulting from a flood that has a one percent or greater chance of being equaled or exceeded in any given year.

"**Basement**" means any area of the building having its floor subgrade (i.e., below ground level) on all sides.

"**Building**" – see "structure".

"**Development**" means any man-made change to improved or unimproved real estate, including, but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

"Encroachment" means the advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures, or other development into a floodplain that may impede or alter the flow capacity of the floodplain.

"Existing manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for serving the lots on which the manufactured home is 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 Ordinance codified in this Chapter.

"Expansion to an existing manufactured home park or subdivision" means the preparation of additional sites by the construction of facilities for serving the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or pouring of concrete pads).

"Flood, flooding, or floodwater" means a general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland or tidal waters; or
2. The unusual and rapid accumulation of runoff of surface waters from any source;

"Flood boundary and floodway map (FBFM)" means the official map on which the Federal Emergency Management Agency or Federal Insurance Administration has delineated both the special flood hazards areas and the floodway.

"Flood insurance rate map (FIRM)" means the official map on which the Federal Emergency Management Agency or Federal Insurance Administration has delineated both the special flood hazards areas and the risk premium zones applicable to the community.

"Flood insurance study (FIS)" means the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Insurance Rate Map, the Flood Boundary and Floodway Map, and the water surface elevation of the base flood. The flood insurance study, FIRMs and FBFMs are on file at the Development Services Department, 2850 Fairlane Court, Placerville, California 95667.

"Floodplain or flood-prone area" means an area susceptible to floodwater. Also see **"Flood, flooding, or floodwater"**.

"Floodplain Administrator" is the community official designated by title to administer and enforce the floodplain management regulations. In El Dorado County, this duty falls on the Director of Development Services or his/her authorized representative.

"Floodplain management" means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including but not limited to emergency

preparedness plans, flood control works, floodplain management regulations, and open space plans.

"Floodplain management regulations" means this Chapter, the remaining Zoning Ordinance, subdivision regulations, building codes, health regulations, special purpose ordinances (such as grading and erosion control) and other applications of police power that control development in flood-prone areas. This term describes federal, state or local regulations in any combination thereof that provide standards for preventing and reducing flood loss and damage.

"Floodproofing" 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, structures, and their contents. For guidelines on dry and wet floodproofing, see FEMA Technical Bulletins TB 1-93, TB 3-93, TB 7-93, and subsequent updates.

"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 one foot. Also referred to as **"Regulatory floodway"**.

"Floodway fringe" is that area of the floodplain on either side of the "Regulatory Floodway" where encroachment may be permitted.

"Functionally dependent use" means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, and does not include long-term storage or related manufacturing facilities.

"Highest adjacent grade" means the highest natural elevation of the ground surface next to the proposed walls of a structure prior to construction.

"Historic structure" means any structure that is:

1. 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;
2. 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;
3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or
4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program as

determined by the Secretary of the Interior or directly by the Secretary of the Interior in states without approved programs.

"Lowest floor" means the lowest floor of the lowest enclosed area - see **"Basement"**. An unfinished or flood-resistant enclosure that is 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 it conforms to applicable non-elevation design requirements under Section 17.25.050.

"Manufactured home" means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes, the term manufactured home also includes mobile homes, park trailers, and other similar vehicles placed on a site for greater than one hundred eighty consecutive days. The term "manufactured home" does not include a "recreational vehicle."

"Manufactured home park or subdivision" means a lot (or contiguous lots) of land divided into two or more manufactured home lots for rent or sale.

"Market value" means the value of the structure prior to building permit issuance for improvement or repair, or restoration if the structure has been damaged. The value shall be based on community established standards to include, but not be limited to appraisal, past permit records, and assessor's value. (See Appendix: "Checklist for Determination of Substantial Improvement")

Or, optionally: "the value of the structure shall be determined by estimating the cost to replace the structure in new condition and adjusting that cost figure by the amount of depreciation which has accrued since the structure was constructed.

1. The cost of replacement of the structure shall be based on a square foot cost factor determined by reference to a building cost estimating guide recognized by the building construction industry.

2. The amount of depreciation shall be determined by taking into account the age and physical deterioration of the structure and functional obsolescence as approved by the floodplain administrator, but shall not include economic or other forms of external obsolescence.

Use of replacement costs or accrued depreciation factors different from those contained in recognized building cost estimating guides may be considered only if such factors are included in a report prepared by an independent professional appraiser and supported by a written explanation of the differences."

"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 a community's Flood Insurance Rate Map are referenced.

"Modern construction" means structures for which the "start of construction" commenced on or after April 1, 1986, the initial adoption date of the County's Flood Damage Prevention Ordinance, and includes any subsequent improvements to such structures, pursuant to the Department of Water Resources Guidelines, for floodplain management purposes.

"Modern 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 homes 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 April 1, 1986.

"Obstruction" includes, but is not limited to, any dam, wall, wharf, embankment, levee, dike, pile, abutment, protection, excavation, channelization, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure, vegetation or other material in, along, across or projecting into any watercourse which may alter, impede, retard or change the direction and/or velocity of the flow of water, or due to its location, its propensity to snare or collect debris carried by the flow of water, or its likelihood of being carried downstream.

"One-hundred-year flood" or "100-year flood" – means a flood having a one percent chance of being equaled or exceeded in any given year (also called a "base flood").

"Public safety and nuisance" as related to Section 17.25.060 of this Ordinance, means that the granting of a variance must not result in anything which is injurious to safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.

"Recreational vehicle" means a motor home, travel trailer, truck camper, or camping trailer, with or without motive power, originally designed for human habitation for recreational or emergency occupancy with a living area of 320 square feet or less and bearing the state or federal insignia of approval for recreational vehicles.

"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 one foot.

"Remedy a violation" means to bring the structure or other development into compliance with state or local floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance through such means as protecting the structure or other affected development from flood damages, implementing the enforcement provisions of the Ordinance or otherwise deterring future similar violations, or reducing state or federal financial exposure with regard to the structure or other development.

"Riverine" means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

"Special flood hazard area (SFHA)" means an area in a floodplain subject to a base flood. In El Dorado County, it is shown on an FHBM or FIRM, and all subsequent amendments and/or revisions, as Zones A, A1-A9, A14, A24, or B, which are defined under "A zone", "A1-A30 zones" and "B zone".

"Start of construction" includes substantial improvement and other proposed new development and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days from the date of the permit. The actual start means either the placement of a manufactured home on a foundation, or the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundation or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, 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 structural part of a building, whether or not that alteration affects the external dimensions of the building.

"Structure" means a walled and roofed building that is principally above ground; this includes a gas or liquid storage tank or a manufactured home.

"Substantial damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before damage occurred.

Or, optionally:

- “1. Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before damage occurred; or
2. Flood-related damages sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred. This is also known as ‘repetitive loss.’”

"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 the "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 any alteration of a "historic structure" provided that the alteration will not preclude the structure's continued

designation as a "historic structure". (See Appendix: "Checklist for Determination of Substantial Improvement")

"Variance" means a grant of relief from the requirements of this Ordinance which permits construction in a manner that would otherwise be prohibited by this Ordinance.

"Violation" means the failure of a structure or other development to be fully compliant with this Ordinance. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this Ordinance 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, North American Vertical Datum (NAVD) of 1988, or other datum, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

"Watercourse" means a lake, river, creek, stream, wash, arroyo, channel, or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

17.25.030 General Provisions.

- A. Application. This Ordinance shall apply to all development in the SFHAs within the jurisdiction of the County.
- B. Compliance. Violation of the following requirements (including violations of conditions and safeguards) shall constitute a misdemeanor. Nothing herein shall prevent the County from taking such lawful action as is necessary to prevent or remedy any violation.
1. No structure shall hereafter be located, constructed, extended, converted, nor land altered without full compliance with the terms of this Chapter and other applicable regulations.
 2. No new critical or high occupancy structures (such as schools and hospitals) shall be located in the 100-year floodplain of any river, stream, or other body of water pursuant to General Plan Policy 6.4.1.3.
- D. Abrogation and greater restrictions. This Ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restriction. However, where this Ordinance and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.
- E. Interpretation. In the interpretation and application of this Ordinance, all provisions shall be:
1. Considered as minimum requirements;

2. Liberally construed in favor of the governing body; and
 3. Deemed neither to limit nor repeal any other powers granted under state statutes.
- F. Warning and Disclaimer of Liability. The degree of flood protection required by this Ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This Ordinance does not imply that land outside the special flood hazard areas or uses permitted within such areas will be free from flooding or flood damages. This Ordinance shall not create liability on the part of the County, any officer or employee thereof, the State of California, or the Federal Emergency Management Agency for any flood damages that result from reliance on this Ordinance or any administrative decision lawfully made hereunder.
- G. Severability. This Chapter and the various parts thereof are hereby declared to be severable. Should any section of this Chapter be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of this Chapter as a whole, or any portion thereof other than the Section so declared to be unconstitutional or invalid.

17.25.040 Administration.

- A. Designation of the Floodplain Administrator. The Director of Development Services or authorized representative is appointed to administer, implement, and enforce this chapter by granting or denying development permits in accordance with its provisions.
- B. Duties and Responsibilities of the Floodplain Administrator. The duties and responsibilities of the Floodplain Administrator shall include, but not be limited to the following:
1. Permit Review. Review all development permits to determine that:
 - a. Permit requirements of this Chapter have been satisfied, including determination of substantial improvement and substantial damage of existing structures;
 - b. All other required state and federal permits have been obtained;
 - c. The site is reasonably safe from flooding;
 - d. The proposed development does not adversely affect the carrying capacity of areas where base flood elevations have been determined but a floodway has not been designated. This means that the cumulative effect of the proposed development when combined with all other existing and anticipated development will not increase the water surface elevation of the base flood more than one foot at any point within El Dorado County; and

- e. All Letters of Map Revision (LOMRs) for flood control projects are approved prior to the issuance of building permits. Building permits must not be issued based on Conditional Letters of Map Revision (CLOMRs). Approved CLOMRs allow construction of the proposed flood control project and land preparation as specified in the “start of construction” definition.
2. Review, Use and Development of Other Base Flood Data. The Floodplain Administrator shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal agency, such as that provided by the Federal Emergency Management Agency (FEMA) under the Flood Insurance Study for El Dorado County, or state agency or other source, in order to administer Section 17.25.050 “Provisions for Flood Hazard Reduction”.

NOTE: A base flood elevation may (**or optional** “shall”) be obtained using one of two methods from the FEMA publication, FEMA 265, "Managing Floodplain Development in Approximate Zone A Areas – A Guide for Obtaining and Developing Base (100-year) Flood Elevations" dated July 1995.

3. Notification of Other Agencies. The Floodplain Administrator shall perform the following tasks prior to a County permit being issued if, as the result of the permit issuance, the following physical changes will occur:
 - a. Alteration or relocation of a watercourse:
 - (1) Notify adjacent communities and the California Department of Water Resources;
 - (2) Submit evidence of such notification to the Federal Insurance Administration, Federal Emergency Management Agency; and
 - (3) Assure that the flood-carrying capacity within the altered or relocated portion of said watercourse is maintained.
 - b. Base Flood Elevation changes based on Subsection 17.25.050.D :
 - (1) Submit, or assure that the permit applicant submits, technical or scientific data to FEMA for a Letter of Map Revision (LOMR). Such submissions are necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and floodplain management requirements are based on current data.
 - c. Changes in corporate boundaries:

- (1) Notify FEMA in writing whenever the corporate boundaries have been modified by annexation or other means, to include a copy of a community map clearly delineating the new corporate limits.
5. Documentation of Floodplain Development. Obtain and maintain for public inspection and make available as needed all certifications, records and permits demonstrating compliance with the requirements of this Chapter. In addition, a record of all variance actions, including justification for their issuance, shall be maintained and submitted in the biennial report to FEMA.
 6. Map Determination. Make interpretations where needed, as to the exact location of the boundaries of the SFHA, where there appears to be a conflict between a mapped boundary and actual field conditions. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Subsection 17.25.040.D.
 7. Remedial Action. Take action to remedy violations of this Ordinance as specified in Subsection 17.25.030.B.
 8. Biennial Report. Every two years, complete and submit a Biennial Report to FEMA describing the County's progress in the previous two years in implementing floodplain management measures and on its needs for re-mapping and technical assistance. Submission of this report is required as part of the County's participation in the NFIP.
 9. Planning. Assure the General Plan is consistent with floodplain management objectives herein.

Optional addition:

- “10. Non-conversion of Enclosed Areas Below the Lowest Floor. To ensure that the areas below the BFE shall be used solely for parking vehicles, limited storage, or access to the building and not be finished for use as human habitation without first becoming fully compliant with the floodplain management Ordinance in effect at the time of conversion, the Floodplain Administrator shall:
- a. Determine which applicants for new construction and/or substantial improvements have fully enclosed areas below the lowest floor that are five feet or higher;
 - b. Enter into a “NON-CONVERSION AGREEMENT FOR CONSTRUCTION WITHIN FLOOD HAZARD AREAS” or equivalent with the County. The agreement shall be recorded with the County Recorder as a deed restriction. The non-conversion agreement shall be in a form acceptable to the Floodplain Administrator and County Counsel; and

- c. Have the authority to inspect any area of a structure below the base flood elevation to ensure compliance upon prior notice of at least 72 hours.”
- C. Development Permit Process. All development that requires a building or grading permit within a SFHA shall comply with the following requirements:
1. In addition to the standard submittal information required under the building and/or grading permit application, the applicant shall provide the following minimum information:
 - a. Plans in duplicate, drawn to scale, showing:
 - (1) Location of the regulatory floodway when applicable;
 - (2) Base flood elevation information as specified in Subsections 17.25.030.A and 17.25.040.B(2);
 - (3) Proposed elevation in relation to mean sea level of the lowest floor (including basement) of all structures; and
 - (4) Proposed elevation in relation to mean sea level to which any nonresidential structure will be floodproofed, as required in Subsection 17.25.050.A(3.b) of this Ordinance and detailed in FEMA Technical Bulletin TB 3-93.
 - b. Certification from a registered civil engineer or architect that the nonresidential floodproofed building meets all applicable floodproofing criteria under Section 17.25.050.
 - c. For a crawl-space foundation, location and total net area of foundation openings as required in Subsection 17.25.050.A(3.c) of this Ordinance and detailed in FEMA Technical Bulletins 1-93 and 7-93.
 - d. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.
 - e. All appropriate certifications, records and permits demonstrating compliance with the requirements of this Chapter.
- D. Appeals. The Board shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Floodplain Administrator in the enforcement or administration of this Chapter.

17.25.050 Provisions for flood hazard reduction.

- A. Standards of Construction. In all SFHAs, the following standards are required:

1. Anchoring - All new and modern construction and substantial improvement of any structure shall be adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
2. Construction Materials and Methods - All new and modern construction and substantial improvement of any structure shall be constructed:
 - a. With flood-resistant materials and utility equipment resistant to flood damage for areas below the base flood elevation;
 - b. Using methods and practices that minimize flood damage; and
 - c. 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.
3. Elevation and Floodproofing.
 - a. Residential construction: All new and modern construction and substantial improvement of any residential structure shall have the lowest floor, including basement:
 - (1) In A1-A9, A14 and A24 Zones, elevated to or above the base flood elevation (BFE).
 - (2) In an A zone, without BFEs specified on the FIRM (unnumbered A zone), elevated to or above the base flood elevation. The applicant shall identify the SFHA and BFE in compliance with Subsection 17.25.040.B(2);
 - (3) Manufactured/mobile homes or Temporary Mobile Home/RV with a Hardship Permit (TMA), placed or substantially improved on a site within any SFHA, shall:
 - (a) Be elevated on a permanent foundation such that the lowest floor of the dwelling unit is elevated to or above the BFE, as specified on the FIRM or as determined under Subsection 17.25.040.B(2), and be securely fastened to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

Prior to the foundation or set-up inspection approval, the elevation of the lowest floor, as defined, shall be certified by a registered civil engineer or licensed land surveyor, and certified by a County building inspector to be properly elevated. Failure to submit elevation certification shall be cause to issue a stop work order for the project. As-built plans certifying the elevation of the lowest adjacent grade is also required. Such certification and verification shall be provided to the Floodplain Administrator.

Or optionally: Instead of “to or above BFE” in Subsections 1, 2 and 3 above, substitute “elevated 2 feet above BFE”

- b. Nonresidential construction: All new and modern construction and substantial improvement of any nonresidential structure shall either be elevated to conform to Subsection 17.25.050.A(3.a) of this paragraph or:
 - (1) Be floodproofed, together with attendant utility and sanitary facilities, below the elevation recommended under Subsection 17.25.050.A(3.a), so that the structure is watertight with walls substantially impermeable to the passage of water;
 - (2) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
 - (3) Be certified by a registered civil engineer or architect that the standards of both Subsections 17.25.050.A(3.a) or (3.b) are satisfied. Such certification shall be provided to the Floodplain Administrator.

- c. Flood openings. All new and modern construction and substantial improvements of any structures with fully enclosed areas below the lowest floor (excluding basements) that are usable solely for parking of vehicles, building access or storage, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwater. Designs for meeting this requirement must meet the following minimum criteria:
 - (1) For non-engineered openings:
 - (a) Have a minimum of two openings on different sides having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
 - (b) The bottom of all openings shall be no higher than one foot above grade.
 - (c) Openings may be equipped with screens, louvers, valves or other coverings or devices provided that they permit the automatic entry and exit of floodwater; and
 - (d) Buildings with more than one enclosed area must have openings on exterior walls for each area to allow flood water to directly enter; or
 - (2) Be certified by a licensed civil engineer or architect.

- d. Garages and low cost accessory structures.
 - (1) Attached garages.

- (a) A garage attached to a residential structure, constructed with the garage floor slab below the BFE, must be designed to allow for the automatic entry of flood waters; see Subsection 17.25.050.A(3.c). Areas of the garage below the BFE must be constructed with flood resistant materials; see Subsection 17.25.050.A(2).
 - (b) A garage attached to a nonresidential structure must meet the above requirements or be dry floodproofed. For guidance on below grade parking areas, see FEMA Technical Bulletin TB-6.
- (2) Detached garages and accessory structures.
 - (a) “Accessory structures” used solely for parking, limited storage, or other non-habitable use, may be constructed such that its floor is below the BFE, provided the structure is designed and constructed in accordance with the following requirements:
 - (i) Use of the accessory structure must be limited to non-habitable use;
 - (ii) The portions of the accessory structure located below the BFE must be built using flood-resistant materials;
 - (iii) The accessory structure must be adequately anchored to prevent flotation, collapse and lateral movement;
 - (iv) Any mechanical and utility equipment in the accessory structure must be elevated or floodproofed to or above the BFE;
 - (v) The accessory structure must comply with floodplain encroachment provisions in Subsection 17.25.050.F; and
 - (vi) The accessory structure must be designed to allow for the automatic entry of flood waters in accordance with Subsection 17.25.050.A(3.c).
 - (b) Detached garages and accessory structures not meeting the above standards must be constructed in accordance with all applicable standards in Subsection 17.25.050.A.
- e. Crawlspace construction. This Subsection applies to buildings with crawl spaces up to two feet below grade. Below-grade crawl space construction in accordance with the requirements listed below will not be considered basements.
 - (1) The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Crawl space construction is

not allowed in areas with flood velocities greater than five feet per second unless the design is reviewed by a qualified design professional, such as a licensed engineer or architect;

- (2) The crawl space is an enclosed area below the BFE and, as such, must have openings that equalize hydrostatic pressures by allowing for the automatic entry and exit of floodwaters. For guidance on flood openings, see FEMA Technical Bulletin 1-93;
- (3) Portions of the building below the BFE must be constructed with materials resistant to flood damage. This includes not only the foundation walls of the crawl space used to elevate the building, but also any joists, insulation, or other materials that extend below the BFE; and
- (4) Any building utility systems within the crawl space must be elevated above BFE or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions.
- (5) Requirements for all below-grade crawl space construction, in addition to the above requirements, to include the following:
 - (a) The interior grade of a crawl space below the BFE must not be more than two feet below the lowest adjacent exterior grade (LAG), shown as D in figure 3 of Technical Bulletin 11-01;
 - (b) The height of the below-grade crawl space, measured from the interior grade of the crawl space to the top of the crawl space foundation wall must not exceed four feet (shown as L in figure 2 of Technical Bulletin 11-01) at any point;
 - (c) There must be adequate drainage system that removes floodwaters from the interior area of the crawl space within a reasonable period of time after a flood event, not to exceed 72 hours; and
 - (d) The velocity of floodwaters at the site should not exceed five feet per second for any crawl space. For velocities in excess of five feet per second, other foundation types should be used.

B. Standards for Utilities.

1. All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from systems into floodwaters.

2. On-site waste disposal systems shall be located to avoid impairment to them, such as soil scouring from flood waters, or contamination from them during flooding.

C. Standards for Subdivisions and Other Proposed Development.

1. Creation of new lots which lie entirely within the SFHAs as identified on the most current version of the flood insurance rate maps provided by FEMA or dam failure inundation areas as delineated in dam failure emergency response plans maintained by the County is prohibited pursuant to General Plan Policy 6.4.1.4.
2. New lots which are partially within the SFHAs or dam failure inundation areas, as delineated in dam failure emergency response plans maintained by the County, must have sufficient land available outside the FEMA or County designated SFHAs or the dam inundation areas for construction of dwelling units, accessory structures, and septic systems, while meeting all other required development standards, pursuant to General Plan Policy 6.4.1.5.
3. All new subdivision proposals and other proposed development, including proposals for manufactures home parks and subdivisions, shall:
 - a. Identify the SFHAs and the BFEs.
 - b. Identify the elevations of the lowest floors of all proposed structures and pads, if applicable, on the final plans.
 - c. If the site is filled above the BFE, the following as-built information for each structure shall be certified by a registered civil engineer or licensed land surveyor and provided as part of an application for a Letter of Map Revision Based on Fill (LOMR-F) to the Floodplain Administrator:
 - (1) Lowest floor elevation.
 - (2) Pad elevation.
 - (3) Lowest adjacent grade.
4. All subdivision proposals shall be consistent with the need to minimize flood damage.
 - a. All subdivision proposals and other proposed development shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
 - b. All subdivisions and other proposed development shall provide adequate drainage provided to reduce exposure to flood hazards.

D. Floodways.

Since floodways are an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

1. Until a regulatory floodway is adopted, no new or modern construction, substantial improvement of any structure, or other development (including fill) shall be permitted within Zones A1-A9, A14 and A24, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other development, will not increase the BFE more than one foot at any point within the County.
2. Within an adopted regulatory floodway, the County shall prohibit encroachments, including fill, new or modern construction, substantial improvements to any structure, and other development, unless certification by a licensed civil engineer is provided demonstrating that the proposed encroachment shall not result in any increase in flood levels during the occurrence of the base flood discharge.
3. If subsections 1 and 2 above are satisfied, all new or modern construction, substantial improvement to any structure, and other proposed new development shall comply with all other applicable flood hazard reduction provisions of this Section (17.25.050).

17.25.060 Variance procedures.

- A. Nature of Variances. The issuance of a variance is for floodplain management purposes only. The variance criteria set forth in this Section of the Ordinance are based on the general principle of zoning law that variances pertain to a piece of property and are not personal in nature. Insurance premium rates are determined by statute according to actuarial risk and will not be modified by the granting of a variance.

In addition to the specific findings found under Section 17.52.070, approval of a variance for floodplain management purposes must not cause fraud on or victimization of the public. In examining this requirement, the approving authority will consider the fact that every newly constructed building adds to government responsibilities and remains a part of the community for 50 to 100 years. Buildings that are permitted to be constructed below the BFE are subject during all those years to increased risk of damage from floods, while future owners of the property and the community as a whole are subject to all the costs, inconvenience, danger, and suffering that those potential risks bring. In addition, future owners may purchase the property, unaware that it is subject to potential flood damage, and could be insured only at very high flood insurance rates.

The long term goal of preventing and reducing flood loss and damage can only be met if variances are strictly limited. Therefore, the variance guidelines provided in this Ordinance are more detailed and contain multiple provisions that must be met before a variance can be properly granted. The criteria are designed to screen out those situations in which alternatives other than a variance are more appropriate.

- B. Criteria. In passing upon requests for variances, the approving authority shall consider all technical evaluations, relevant factors, standards specified in other sections of this Ordinance, as well as the:

1. Danger that materials may be swept onto other lands to the injury of others;
2. Danger to life and property due to flooding or erosion damage;
3. Susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the existing individual owner and future owners of the property;
4. Importance of the services provided by the proposed facility to the community;
5. Necessity to the facility of a waterfront location, where applicable;
6. Availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
7. Compatibility of the proposed use with existing and anticipated development;
8. Relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
9. Safety of access to the property in time of flood for ordinary and emergency vehicles;
10. Expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site; and
11. Costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water system, and streets and bridges.

C. Provisions.

1. Generally, variances may be issued for new or modern construction, substantial improvement of any structure, and other proposed new development on a lot of one-half acre or less in size adjoining and surrounded by lots with existing structures constructed below the BFE, providing that the procedures of Sections 17.25.040 and 17.25.050 of this Ordinance have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases.
2. Variances may be issued for the repair or rehabilitation of “historic structures”, as defined in Section 17.25.020, upon a determination that the proposed repair or rehabilitation will not preclude the structure’s continued designation as an historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
3. Variances shall not be issued within any mapped regulatory floodway if any increase in flood levels during the base flood discharge would result.

4. Variances shall only be issued upon a determination that the variance is the “minimum necessary”, considering the flood hazard, to afford relief. “Minimum necessary” means to afford relief with a minimum of deviation from the requirements of this Ordinance. For example, in the case of variances to an elevation requirement, this means the approving authority need not grant permission for the applicant to build at grade, or even to whatever elevation the applicant proposes, but only to that elevation which the approving authority believes will both provide relief and preserve the integrity of the Ordinance.
5. In addition to the findings under Section 17.52.070, variances shall only be issued upon a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense; and will not create a nuisance (Section 17.25.020), cause fraud and victimization of the public, or conflict with existing laws or ordinances.
6. Upon consideration of the factors of Subsection 17.25.060.C(1) and the purposes of this Ordinance, the Board may attach such conditions to the granting of variances as it deems necessary to further the purpose of this Ordinance.
7. Any applicant to whom a variance is granted shall be given written notice over the signature of the Director that:
 - a. The issuance of a variance to construct a structure below the BFE will result in increased premium rates for flood insurance; and
 - b. Such construction below the BFE increases risks to life and property. It is recommended that a copy of the notice shall be recorded by the Floodplain Administrator in the office of the County Recorder-Clerk and shall be recorded in a manner so that it appears in the chain of title of the affected lot of land.
8. The Floodplain Administrator will maintain a record of all variance actions, including justification for their issuance, and report such variances issued in its biennial report submitted to FEMA.