Chapter 5

PROVISIONS FOR FLOOD HAZARD REDUCTION

SECTION:

12-5-1:	General Standards
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12-5-3:	Standards for Floodplains Without Established Base Flood Elevations

12-5-1: General Standards

In all Special Flood Hazard Areas the following provisions are required:

A. All new construction, substantial improvements, and development shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

B. All new construction, substantial improvements, and development shall be constructed with materials and utility equipment resistant to flood damage in accordance with the Technical Bulletin 2, Flood Damage-Resistant Materials Requirements, and available from the Federal Emergency Management Agency.

C. All new construction, substantial improvements, and development shall be constructed by methods and practices that minimize flood damages.

D. All new and replacement electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding to the Flood Protection Elevation. These include, but are not limited to, HVAC equipment, water softener units, bath/kitchen fixtures, ductwork, electric/gas meter panels/boxes, utility/cable boxes, hot water heaters, and electric outlets/switches.

E. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.

F. All new and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into flood waters.

G. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.

H. A fully enclosed area, of new construction and substantially improved structures, which is below the lowest floor used solely for parking, access, and storage shall:

1. be constructed entirely of flood resistant materials at least to the Flood Protection Elevation; and
2. include, in Zones A, flood openings to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet or exceed the following minimum design criteria:

i. A minimum of two flood openings on different sides of each enclosed area subject to flooding;

ii. The total net area of all flood openings must be at least one (1) square inch for each square foot of enclosed area subject to flooding;

iii. If a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;

iv. The bottom of all required flood openings shall be no higher than one (1) foot above the interior or exterior adjacent grade;

v. Flood openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions; and

vi. Enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require flood openings. Masonry or flood resistant wood underpinning, regardless of structural status, is considered an enclosure and requires flood openings as outlined above.

I. Any alteration, repair, reconstruction, or improvements to a structure, which is in compliance with the provisions of this ordinance, shall meet the requirements of "new construction" as contained in this ordinance.

J. Nothing in this ordinance shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this ordinance and located totally or partially within the floodway, or stream setback, provided there is no additional encroachment below the Flood Protection Elevation in the floodway, or stream setback, and provided that such repair, reconstruction, or replacement meets all of the other requirements of this ordinance.

K. New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted, except by variance as specified in Chapter 4, Section 12-4-5(I). A structure or tank for chemical or fuel storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility may be located in a Special Flood Hazard Area only if the structure or tank is either elevated or floodproofed to at least the Flood Protection Elevation and certified in accordance with the provisions of Chapter 4, Section 12-4-3(C).

L. All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage and determined to be reasonably safe from flooding.

M. All subdivision proposals and other development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.

N. All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.

O. All subdivision proposals and other development proposals shall have received all necessary permits from those governmental agencies for which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 USC 1334.

P. All subdivision proposals and other development proposals greater than 50 lots or 5 acres, whichever is the lesser, shall include within such proposals base flood elevation data.

Q. When a structure is partially located in a Special Flood Hazard Area, the entire structure shall meet the requirements for new construction and substantial improvements.

R. When a structure is located in multiple flood hazard zones or in a flood hazard risk zone with multiple base flood elevations, the provisions for the more restrictive flood hazard risk zone and the highest Base Flood Elevation (BFE) shall apply.

12-5-2: Specific Standards

In all Special Flood Hazard Areas where Base Flood Elevation (BFE) data has been provided, as set forth in Chapter 3, Section 12-3-2, or Chapter 4, Section 12-4-4, the following provisions, in addition to the provisions of Chapter 5, Section 12-5-1, are required:

A. Residential Construction. New construction, substantial improvements, and development of any residential structure (including manufactured homes) shall have the lowest floor, including basement, elevated no lower than the Flood Protection Elevation, as defined in Chapter 2 of this ordinance.

B. Non-Residential Construction. New construction, substantial improvements, and development of any commercial, industrial, or other non-residential structure shall have the lowest floor, including basement, elevated no lower than the Flood Protection Elevation, as defined in Chapter 2 of this ordinance. Structures located in Zones A may be floodproofed to the Flood Protection Elevation in lieu of elevation provided that all areas of the structure, together with attendant utility and sanitary facilities, below the Flood Protection Elevation are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the floodproofing standards of this subsection are satisfied. Such certification shall be provided to the Floodplain Administrator as set forth in Chapter 4, Section 12-4-3(C), along with the operational plan and the inspection and maintenance plan.

C. Manufactured Homes.
   1. New and replacement manufactured homes shall be elevated so that the lowest floor of the manufactured home is no lower than the Flood Protection Elevation, as defined in Chapter 2 of this ordinance.
   2. Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement, either by certified engineered foundation system, or in accordance with the most current edition of the Idaho Division of Building Safety's "Idaho Manufactured Home Installation Standard" in accordance with Idaho Code § 44-2201(2). Additionally, when the elevation would be met by an elevation of the chassis thirty-six (36) inches or less above the grade at the site, the chassis shall be supported by reinforced piers or engineered foundation. When the elevation of the chassis is above thirty-six (36) inches in height, an engineering certification is required.
   3. All enclosures or skirting below the lowest floor shall meet the requirements of Chapter 5, Section 12-5-1(H)(1)(2).
   4. An evacuation plan must be developed for evacuation of all residents of all new, substantially improved, or substantially damaged manufactured home parks or subdivisions located within flood prone areas. This plan shall be filed with and approved by the Floodplain Administrator and the local Emergency Management Coordinator.

D. Additions/Improvements.

1. Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are

   i. not a substantial improvement, the addition and/or improvements must be designed to minimize flood damages and must not be any more non-conforming than the existing structure; or

   ii. a substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.

2. Additions to non-compliant post-FIRM structures that are a substantial improvement with no modifications to the existing structure other than a standard door in the common wall shall require only the addition to comply with the standards for new construction.

3. Additions and/or improvements to non-compliant post-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are

   i. not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction; or

   ii. a substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.

E. Recreational Vehicles. Recreational vehicles shall be either:

1. Temporary Placement.

   i. be on site for fewer than 180 consecutive days and be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities, and has no permanently attached additions); or

2. Permanent Placement.

   i. Recreational vehicles that do not meet the limitations of Temporary Placement shall meet all the requirements for new construction, as set forth in Chapter 5, Section 12-5-1.

F. Temporary Non-Residential Structures. Prior to the issuance of a floodplain development permit for a temporary structure, the applicant must submit to the Floodplain Administrator a plan for the removal of such structure(s) in the event

of a flash flood or other type of flood warning notification. The following information shall be submitted in writing to the Floodplain Administrator for review and written approval:

1. a specified time period for which the temporary use will be permitted. Time specified may not exceed six (6) months, renewable up to one (1) year;
2. the name, address, and phone number of the individual responsible for the removal of the temporary structure;
3. the time frame prior to the event at which a structure will be removed (i.e., immediately upon flood warning notification);
4. a copy of the contract or other suitable instrument with the entity responsible for physical removal of the structure; and
5. designation, accompanied by documentation, of a location outside the Special Flood Hazard Area, to which the temporary structure will be moved.

G. Accessory Structures (Appurtenant structures). When accessory structures (sheds, detached garages, etc.) used solely for parking, and storage are to be placed within a Special Flood Hazard Area, elevation or floodproofing certifications are required for all accessory structures in accordance with Chapter 4, Section 12-4-3(C), and the following criteria shall be met:

1. Accessory structures shall not be used for human habitation (including working, sleeping, living, cooking, or restroom areas);
2. Accessory structures shall not be temperature-controlled;
3. Accessory structures shall be designed to have low flood damage potential;
4. Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
5. Accessory structures shall be firmly anchored in accordance with the provisions of Chapter 5, Section 12-5-1 (A);
6. All utility equipment and machinery, such as electrical, shall be installed in accordance with the provisions of Chapter 5, Section 12-5-1(D); and
7. Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below Flood Protection Elevation in conformance with the provisions of Chapter 5, Section 12-5-1(H).
8. Accessory structures not used solely for parking, access, and storage must be elevated per Chapter 5, Section 12-5-2(A) and (B).

   An accessory structure with a footprint less than 200 square feet and is a minimal investment of Seven Thousand Five Hundred Dollars ($7,500.00) and satisfies the criteria outlined in a - g above is not required to provide the elevation certificate per Chapter 5, Section 12-5-2(B).

H. Tanks.
When gas and liquid storage tanks are to be placed within a Special Flood Hazard Area, the following criteria shall be met:

1. Underground tanks, elevated above-ground tanks, and not elevated above-ground tanks, in flood hazard areas shall be anchored to prevent flotation, collapse, or lateral movement; and
2. Tank inlets, fill openings, outlets and vents shall be:

    i. at or above the flood protection elevation or fitted with covers designed to prevent the inflow of floodwater or outflow of the contents of the tanks during conditions of the base flood; and

    ii. anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the base flood.

I. Construction of Below-Grade Crawlspace.

1. The interior grade of a crawlspace must not be below the BFE and must not be more than two (2) feet below the exterior lowest adjacent grade (LAG).
2. The height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation wall, must not exceed four (4) feet at any point.
3. There must be an adequate drainage system that removes floodwaters from the interior area of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event.
4. The velocity of floodwaters at the site should not exceed five (5) feet per second for any crawlspace.

J. Subdivision plats.
Flood zones.

1. A note must be provided on the final plat documenting the current flood zone in which the property or properties are located. The boundary line must be drawn on the plat in situations where two or more flood zones intersect over the property or properties being surveyed.
2. FEMA FIRM panel(s): #160xxxxxC, & 160xxxxxE, etc.
FIRM effective date(s): mm/dd/year
Flood Zone(s): Zone X, Zone A, Zone AE, A Zone AO, Zone, AH, Zone D, etc.
Base Flood Elevation(s): AE ____.0 ft., etc.
Flood Zones are subject to change by FEMA & all land within a floodplain is regulated by Title 12 of the Cassia County Code.

K. Critical Facilities:

Construction of new critical facilities shall be, to the extent possible, located outside the limits of the special flood hazard area (SFHA) (100-year floodplain). Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three feet (3') above BFE or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities to the extent possible.

As a best practice, FEMA recommends protection that exceeds code minimums. For example, FEMA 543, Design Guide for Improving Critical Facility Safety from Flooding and High Winds (2007) recommends protecting critical facilities to withstand at least a 0.2-percent-annual-chance flood event (often called the "500-year flood event"). Flood elevations for the 0.2-percent-annual-chance flood may be greater than the elevation specified by ASCE 24. If federal funding or other Federal action is involved, the requirements of Executive Order 11988 – Floodplain Management may necessitate protection of critical actions to the 500-year flood elevation (critical actions may include the construction and repair of critical facilities). In existing facilities that have not been substantially damaged, it may not be possible to floodproof or elevate to provide protection from the 0.2-percent-annual-chance flood event. In those instances, floodproofing or elevating as high as practical is recommended.

L. Compensatory Storage:

New development shall not reduce the effective flood storage volume of the SFHA. A development proposal shall provide compensatory storage if grading or other activity eliminates any effective flood storage volume. Compensatory storage shall:

1. Provide equivalent volume at equivalent elevations to that being displaced. For this purpose, "equivalent elevation" means having similar relationship to ordinary high water and the best available one hundred (100) year water surface profiles;
2. Be hydraulically connected to the source of flooding; and
3. Provide compensatory storage in the same construction season as when the displacement of flood storage volume occurs and before the flood season begins.
4. The newly created storage area shall be graded and vegetated to allow fish access during flood events without creating fish stranding sites.

M. Pit, Mine, Quarry, or Gravel Extraction:

Approval of a CLOMR shall be required as a condition of approval for any proposed pit, mine, quarry, or gravel extraction. The CLOMR application shall demonstrate that the extraction site will be designed to avoid river avulsion (the sudden separation of land from one property and its attachment to another, especially by flooding or a change in the course of a river). FEMA must approve the CLOMR prior to commencement of the use or breaking ground. Gravel mining operations or excavations are not permitted within one hundred feet (100') of the top of river bank regardless of floodplain designation. Material stockpiles and permanently installed structures shall not be located within the regulatory floodway.

Gravel and sand and their subsequent extraction on lands within the Special Flood Hazard Area require a floodplain development permit. A Reclamation Plan Bond for LOMR shall be posted by the mine/property owner with Cassia County, Idaho to cover the estimated costs of a Reclamation LOMR as determined by the mine/property owner and shall provide supporting documentation for the estimated LOMR cost. A Reclamation LOMR shall be completed within one year of the completion of mining. Upon failure of the property owner to obtain a Reclamation LOMR of the mining site within one year, the Reclamation Plan Bond for LOMR will be forfeited.

N. Other Development:

1. Fences that have the potential to block the passage of floodwaters, such as stockade fences and wire mesh fences require a floodplain development permit.
2. Retaining walls, bulkheads, sidewalks, and driveways that involve the placement of fill require a floodplain development permit.
3. Roads and watercourse crossings, including roads, bridges, culverts, low-water crossings, and similar means for vehicles or pedestrians to travel from one side of a watercourse to the other side require a floodplain development permit.
4. Drilling water, oil, and/or gas wells including fuel storage tanks, apparatus, and any equipment at the site require a floodplain development permit.
5. Docks, piers, boat ramps, marinas, moorings, decks, docking facilities, port facilities, shipbuilding, and ship repair facilities require a floodplain development permit.

12-5-3: Standards for Floodplains without Established Base Flood Elevations

Within the Special Flood Hazard Areas designated as Zone A (also known as Unnumbered A Zones) and established in Chapter 3, Section 12-3-2, where no Base Flood Elevation

(BFE) data has been provided by FEMA, the following provisions, in addition to the provisions of Chapter 5, Section 12-5-1, shall apply:

The BFE used in determining the Flood Protection Elevation (FPE) shall be determined based on the following criteria:

A. When Base Flood Elevation (BFE) data is available from other sources, all new construction and substantial improvements within such areas shall also comply with all applicable provisions of this ordinance and shall be elevated or floodproofed in accordance with standards in Chapter 5, Sections 12-5- 1 and 12-5-2.

B. When floodway data is available from a Federal, State, or other source, all new construction and substantial improvements within floodway areas shall also comply with the requirements of Chapter 5, Sections 12-5-2 and 12-5-5.

C. Require that all new subdivision proposals and other proposed developments (including proposals for manufactured home parks and subdivisions) greater than 50 lots or 5 acres, whichever is the lesser, include within such proposals base flood elevation data. Such Base Flood Elevation (BFE) data shall be adopted by reference in accordance with Chapter 3, Section 12-3-2 and utilized in implementing this ordinance. The applicant/developer shall submit an application for a Conditional Letter of Map Revision (CLOMR) prior to Preliminary Plat approval and have obtained a Letter of Map Revision (LOMR) prior to any building permits for structures being issued.

   See FEMA 480 and/or FEMA 265 for further information

D. When Base Flood Elevation (BFE) data is not available from a Federal, State, or other source as outlined above, the lowest floor shall be elevated or floodproofed (non-residential) to two feet (2.0 ft.) above the Highest Adjacent Grade (HAG) at the building site or to the Flood Protection Elevation (FPE) whichever is higher, as defined in Chapter 2. All other applicable provisions of Chapter 5, Section 12-5-2 shall also apply.