

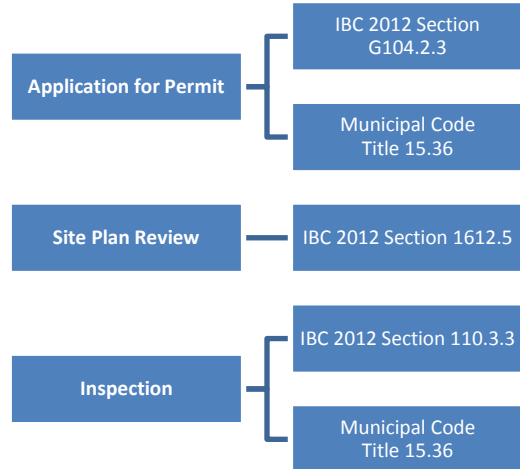
ELEVATION CERTIFICATE

STANDARD OPERATING PROCEDURE

Purpose

The objective of this SOP is to:

- Establish guidelines for handling and maintaining Elevation Certificates
- Provide quality control guidelines for Elevation Certificates



Background

The City of Douglas maintains Floodplain Management Regulations under Municipal Code Title 15.36. Title 15.36.140 outlines the duties and responsibilities of the floodplain administrator and requires an elevation certificate of the lowest floor elevations (including basement or crawlspace) of all new or substantially improved structures, and whether or not the structure contains a basement as well as elevation certificates for proposed subdivisions. Title 15.36.210B requires base flood elevation data, including elevation certificate(s) shall be provided for all subdivision proposals and other proposed developments that include land located within a special flood hazard area.

Elevation certification shall be conducted as follows.

Procedure

This procedure applies to buildings in the SFHA only. Areas outside the SFHA do not require an Elevation Certificate.

This procedure applies to and requires the Federal Emergency Management Agency (FEMA) Elevation Certificate, Form 81-31.

The Community Development Department will not issue a building permit for new construction or substantial improvement of an existing structure without an approved FEMA Elevation Certificate for the “Construction Drawing.” The Elevation Certificate must be completed in accordance with FEMA instructions and be approved by an engineer from who is a Certified Floodplain Manager from the Association of State Floodplain Managers.

Should an Elevation Certificate be found to contain errors, the reviewer shall provide an explanation of what needs to be corrected and how to make those corrections. Applicants should be encouraged to submit draft Elevation Certificates for informal review and comment by the Community Development Department at no charge to the applicant.

Once an Elevation Certificate is deemed acceptable, it will be stored in the Community Development Department. An electronic copy will be stored on the City’s main server and duplicate copies will be kept in the Community Development Department files.

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SECTION G104 PERMITS

G104.1 Required.

Any person, owner or authorized agent who intends to conduct any development in a flood hazard area shall first make application to the *building official* and shall obtain the required *permit*.

G104.2 Application for permit.

The applicant shall file an application in writing on a form furnished by the *building official*. Such application shall:

1. Identify and describe the development to be covered by the permit.
2. Describe the land on which the proposed development is to be conducted by legal description, street address or similar description that will readily identify and definitely locate the site.
3. Include a site plan showing the delineation of flood hazard areas, floodway boundaries, flood zones, design flood elevations, ground elevations, proposed fill and excavation and drainage patterns and facilities.
4. Indicate the use and occupancy for which the proposed development is intended.
5. Be accompanied by construction documents, grading and filling plans and other information deemed appropriate by the *building official*.
6. State the valuation of the proposed work.
7. Be signed by the applicant or the applicant's authorized agent.

SECTION 110 INSPECTIONS

[A] 110.1 General.

Construction or work for which a *permit* is required shall be subject to inspection by the *building official* and such construction or work shall remain accessible and exposed for inspection purposes until *approved*. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the *permit* applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the *building official* nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

[A] 110.2 Preliminary inspection.

Before issuing a *permit*, the *building official* is authorized to examine or cause to be examined buildings, structures and sites for which an application has been filed.

[A] 110.3 Required inspections.

The *building official*, upon notification, shall make the inspections set forth in Sections 110.3.1 through 110.3.10.

[A] 110.3.1 Footing and foundation inspection.

Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place. For concrete foundations, any required forms shall be in place prior to inspection. Materials for the foundation shall be on the job, except where concrete is ready mixed in accordance with ASTM C 94, the concrete need not be on the job.

[A] 110.3.2 Concrete slab and under-floor inspection.

Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduit, piping accessories and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including the subfloor.

[A] 110.3.3 Lowest floor elevation.

In flood hazard areas, upon placement of the lowest floor, including the basement, and prior to further vertical construction, the elevation certification required in [Section 1612.5](#) shall be submitted to the *building official*.

[A] 110.3.4 Frame inspection.

Framing inspections shall be made after the roof deck or sheathing, all framing, *fireblocking* and bracing are in place and pipes, chimneys and vents to be concealed are complete and the rough electrical, plumbing, heating wires, pipes and ducts are *approved*.

[A] 110.3.5 Lath and gypsum board inspection.

Lath and gypsum board inspections shall be made after lathing and gypsum board, interior and exterior, is in place, but before any plastering is applied or gypsum board joints and fasteners are taped and finished.

Exception: Gypsum board that is not part of a fire-resistance-rated assembly or a shear assembly.

[A] 110.3.6 Fire- and smoke-resistant penetrations.

Protection of joints and penetrations in fire-resistance-rated assemblies, *smoke barriers* and smoke partitions shall not be concealed from view until inspected and *approved*.

[A] 110.3.7 Energy efficiency inspections.

Inspections shall be made to determine compliance with [Chapter 13](#) and shall include, but not be limited to, inspections for: envelope insulation *R*- and *U*-values, fenestration *U*-value, duct system *R*-value, and HVAC and water-heating equipment efficiency.

[A] 110.3.8 Other inspections.

In addition to the inspections specified in Sections 110.3.1 through 110.3.7, the *building official* is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced by the department of building safety.

[A] 110.3.9 Special inspections.

For *special inspections*, see [Chapter 17](#).

[A] 110.3.10 Final inspection.

The final inspection shall be made after all work required by the building *permit* is completed.

[A] 110.3.10.1 Flood hazard documentation.

If located in a *flood hazard area*, documentation of the elevation of the lowest floor as required in [Section 1612.5](#) shall be submitted to the *building official* prior to the final inspection.

[A] 110.4 Inspection agencies.

The *building official* is authorized to accept reports of *approved* inspection agencies, provided such agencies satisfy the requirements as to qualifications and reliability.

SECTION 1612 FLOOD LOADS

1612.1 General.

Within *flood hazard areas* as established in [Section 1612.3](#), all new construction of buildings, structures and portions of buildings and structures, including substantial improvement and restoration of substantial damage to buildings and structures, shall be designed and constructed to resist the effects of flood hazards and flood loads. For buildings that are located in more than one *flood*

hazard area, the provisions associated with the most restrictive *flood hazard area* shall apply.

1612.2 Definitions.

The following terms are defined in [Chapter 2](#):

BASE FLOOD.

BASE FLOOD ELEVATION.

BASEMENT.

DESIGN FLOOD.

DESIGN FLOOD ELEVATION.

DRY FLOODPROOFING.

EXISTING CONSTRUCTION.

EXISTING STRUCTURE.

FLOOD or FLOODING.

FLOOD DAMAGE-RESISTANT MATERIALS.

FLOOD HAZARD AREA.

FLOOD HAZARD AREA SUBJECT TO HIGH-VELOCITY WAVE ACTION.

FLOOD INSURANCE RATE MAP (FIRM).

FLOOD INSURANCE STUDY.

FLOODWAY.

LOWEST FLOOR.

SPECIAL FLOOD HAZARD AREA.

START OF CONSTRUCTION.

SUBSTANTIAL DAMAGE.

SUBSTANTIAL IMPROVEMENT.

1612.3 Establishment of flood hazard areas.

To establish *flood hazard areas*, the applicable governing authority shall adopt a flood hazard map and supporting data. The flood hazard map shall include, at a minimum, areas of special flood hazard as identified by the Federal Emergency Management Agency in an engineering report entitled "The Flood Insurance Study for **[INSERT NAME OF JURISDICTION]**," dated **[INSERT DATE OF ISSUANCE]**, as amended or revised with the accompanying Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM) and related supporting data along with any revisions thereto. The adopted flood hazard map and supporting data are hereby adopted by reference and declared to be part of this section.

1612.3.1 Design flood elevations.

Where design flood elevations are not included in the *flood hazard areas* established in [Section 1612.3](#), or where floodways are not designated, the *building official* is authorized to require the applicant to:

1. Obtain and reasonably utilize any design flood elevation and floodway data available from a federal, state or other source; or
2. Determine the design flood elevation and/or floodway in accordance with accepted hydrologic and hydraulic engineering practices used to define special flood hazard areas. Determinations shall be undertaken by a *registered design professional* who shall document that the technical methods used reflect currently accepted engineering practice.

1612.3.2 Determination of impacts.

In riverine *flood hazard areas* where design flood elevations are specified but floodways have not been designated, the applicant shall provide a floodway analysis that demonstrates that the proposed work will not increase the design flood elevation more than 1 foot (305 mm) at any point within the jurisdiction of the applicable governing authority.

1612.4 Design and construction.

The design and construction of buildings and structures located in *flood hazard areas*, including flood hazard areas subject to high-velocity wave action, shall be in accordance with Chapter 5 of ASCE 7 and with ASCE 24.

1612.5 Flood hazard documentation.

The following documentation shall be prepared and sealed by a *registered design professional* and submitted to the *building official*:

1. For construction in *flood hazard areas* not subject to high-velocity wave action:

1.1. The elevation of the lowest floor, including the basement, as required by the lowest floor elevation inspection in Section 110.3.3.

1.2. For fully enclosed areas below the design flood elevation where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.6.2.1 of ASCE 24, construction documents shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.6.2.2 of ASCE 24.

1.3. For dry floodproofed nonresidential buildings, *construction documents* shall include a statement that the dry floodproofing is designed in accordance with ASCE 24.

2. For construction in flood hazard areas subject to high-velocity wave action:

2.1. The elevation of the bottom of the lowest horizontal structural member as required by the lowest floor elevation inspection in Section 110.3.3.

2.2. Construction documents shall include a statement that the building is designed in accordance with ASCE 24, including that the pile or column foundation and building or structure to be attached thereto is designed to be anchored to resist flotation, collapse and lateral movement due to the effects of wind and flood loads acting simultaneously on all building components, and other load requirements of Chapter 16.

2.3. For breakaway walls designed to have a resistance of more than 20 psf (0.96 kN/m²) determined using allowable stress design, *construction documents* shall include a statement that the breakaway wall is designed in accordance with ASCE 24.

Municipal Code

Chapter 15.36 - FLOODPLAIN MANAGEMENT REGULATIONS

Sections:

FOOTNOTE(S):

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Editor's note— Ord. No. 863, adopted Oct. 12, 2009, deleted the former Ch. 15.36, §§ 15.36.010—15.36-260, and enacted a new Ch. 15.36 as set out herein. The former Ch. 15.36 pertained to floodplain regulations and derived from Ord. 264 §§ 1.1—1.4, § 2.0, §§ 3.1—3.6, §§ 4.1—4.3, §§ 4.4-1, 4.4-2, § 5.1, §§ 5.1-1—5.1-4, § 5.2, §§ 5.2-1—5.2-3, § 5.3, 1978; Ord. 274, 1978; Ord. 476 (part), 1989; Ord. 663, 2002.

15.36.010 - Statutory authorization.

The Legislature of the state of Wyoming has in Sections 15-1-103(xxxi) and (xli) delegated the responsibility to local governmental units to adopt regulations designed to regulate the channels of streams and water courses, and promote the public health, safety, and general welfare of its citizenry. Therefore, the city council does hereby adopt the following floodplain management regulations as set out in this chapter.

(Ord. No. 863, 10-12-2009)

15.36.020 - Findings of fact and basis for establishing areas of special flood hazard.

- A. The flood hazard areas within the City of Douglas are subject to periodic inundation which may result in loss of life and damage to property, health, and safety, 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.
- B. These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately floodproofed, elevated or otherwise protected from flood damage also contribute to the flood loss.
- C. Relief is available in the form of flood insurance as authorized by the National Flood Insurance Act of 1968. Therefore, the City of Douglas, Wyoming has chosen to become a participating community in the National Flood Insurance Program, and agrees to comply with the requirements of the National Flood Insurance Act of 1968 (P.L. 90-488, as amended) as detailed in this Floodplain Management Ordinance.
- D. The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for the Town of Douglas, Wyoming," dated April 1978/Revised: 3/15/83, with an accompanying flood insurance rate map (FIRM), and the flood insurance study and flood insurance rate map effective on November 04, 2009, are adopted by reference and declared to be part of this chapter. The flood insurance study and attendant mapping is the minimum area of applicability of this chapter and may be supplemented by studies for other areas which allow implementation of this ordinance and which are recommended to the governing body by the floodplain administrator. A copy of the flood insurance study and the flood insurance rate map shall be on file in the planning and community development department.
- E. Regulations within this chapter shall apply to zones A, AE, AO, AH, and zone A1-A30 as indicated on the flood insurance rate map.

(Ord. No. 863, 10-12-2009)

(Ord. No. 871, 1-11-2010)

15.36.030 - Statement of purpose.

It is the purpose of this chapter 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:

- A. To protect human life and health;
- B. To minimize expenditure of public money for costly flood-control projects;
- C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- D. To minimize prolonged business interruptions;
- E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;
- F. To help maintain a stable tax base by providing for the second use and development of areas of special flood hazard so as to minimize future flood-blight areas;

- G. To ensure that potential buyers are notified that property is in an area of special flood hazard; and
- H. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

(Ord. No. 863, 10-12-2009)

15.36.040 - Methods of reducing flood losses.

In order to accomplish its purpose, this chapter includes methods and provisions for:

- A. Restricting or prohibiting 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 and velocities;
- B. Requiring that uses vulnerable to flood, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- C. Controlling the alteration of natural floodplains, alluvial fans, stream channels, and natural protective barriers, which help accommodate or channel floodwaters;
- D. Controlling filling, grading, dredging, and other development which may increase flood damage; and
- E. Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

(Ord. No. 863, 10-12-2009)

15.36.050 - Definitions.

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

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

"Act" means the National Flood Insurance Act of 1968 and Flood Disaster Protection Act of 1973, both as amended.

"Alluvial fan" means the geomorphologic feature characterized by a cone or fan-shaped deposit of clay, silt, sand, gravel, and boulders that have been eroded from mountain slopes, transported by flood flows, and deposited on the valley floor.

"Alluvial fan flooding" means flooding occurring on the surface of an alluvial fan or similar land form which originates at the apex and is characterized by high velocity flows, active processes or erosion, sediment transport, deposition, and unpredictable flow paths.

"Anchor" means a series of methods used to secure a structure in place so that it will not be displaced by flood or wind forces.

"Apex" means the highest point on an alluvial fan or similar landform below which the flow path of the major stream that formed the fan becomes unpredictable and alluvial fan flooding can occur.

"Appeal" means a request for a review of the administrative authority's interpretation of any provision of this chapter or a request for a variance.

"Appurtenant structure" means a detached garage or carport servicing a 1-4 family dwelling.

"Area of shallow flooding" means the designated zones AO and AH on the flood insurance rate map (FIRM) with a one (1) percent or greater annual chance of flooding to an average depth of one (1) to three (3) feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

"Area of special flood hazard" means the land in the floodplain within a community subject to a one (1) percent or greater chance of flooding in any given year. These areas are designated as zones A, AE, AO, AH, and A1-A30 on the flood insurance rate map.

"Backfill" means the placement of fill material within a specified depression, hole or excavation pit below the surrounding adjacent ground level as a means of improving flood water conveyance or to restore the land to the natural contours existing prior to excavation.

"Base flood" means a flood having a one (1) percent chance of being equaled or exceeded in any given year. (Also called a "100-year flood.")

"Base flood depth (BFD)" means the depth shown on the flood insurance rate map (FIRM) for zone AO that indicates the depth of water above highest adjacent grade resulting from a flood that has a one (1) percent chance of equaling or exceeding that level in a given year.

"Base flood elevation" means the height in relation to mean sea level expected to be reached by the waters of the base flood at pertinent points in the floodplain of riverine areas.

"Base floodplain" means the floodplain that would be inundated by a one (1) percent chance flood.

"Basement" means any area of a building having its floor sub-grade (below ground level) on all sides. For purposes of this section, basements are considered the lowest floor of a structure.

"Binder" means a temporary agreement between company, producer, and insured that the policy is in effect. Binders are not permitted under NFIP.

"Blanket insurance" means a single amount of insurance applying to more than one (1) building and/or contents. Blanket insurance is not permitted under NFIP.

"Breakaway wall" means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system or any building to which they might be carried by floodwaters. A breakaway wall shall have a safe design loading resistance of not less than ten (10) pounds and no more than twenty (20) pounds per square foot. Use of breakaway walls must be certified by a registered engineer or architect and shall meet the following conditions:

1. Breakaway wall collapse shall result from a water load less than that which would occur during the base flood, and
2. The elevated portion of the building shall not incur any structural damage due to the effects of wind and water loads acting simultaneously in the event of the base flood.

"Building. See "Structure."

"Channel" means a natural or artificial watercourse with definite bed and banks to confine and conduct flowing water.

"Channel capacity" means the maximum flow that can pass through a channel without overflowing the banks.

"Code of Federal Regulations" means the codification of the general and permanent rules published in the Federal Regulations (CFR) Register by the executive departments and agencies of the federal government.

"Community" means any state, area, or political subdivision thereof, which has the authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction.

"Community number" means the six (6) digit designation identifying each NFIP community. The first two (2) numbers are the state code. The next four (4) are the Federal Insurance Administration (FIA)-assigned community number. An alphabetical suffix is added to a community number to identify revisions in the flood insurance rate map (FIRM) for that community.

"Community rating system" means the program developed by the Federal Insurance Administration (FIA) to provide incentives for those communities in the regular program that have gone beyond the minimum floodplain management requirements to develop extra measures to provide protection from flooding.

"Conditional letter of map amendment (CLOMA)" means a letter from the Federal Emergency Management Agency (FEMA) stating that a proposed structure that is not to be elevated by fill would not be inundated by the base flood if built as proposed.

"Conditional letter of map revision (CLOMR)" means procedures by which contractors, developers, and communities can request review and determination by the Federal Insurance Administration of scientific and technical data for a proposed project, when complete and functioning effectively would modify the elevation of individual structures and parcels of land, stream channels, and floodplains on the flood insurance rate map (FIRM).

"Conditional letter of map revision (based on fill) (CLOMR-F)" means a letter from the Federal Emergency Management Agency (FEMA) stating that a parcel of land or proposed structure that is elevated by fill would not be inundated by the base flood if fill is placed on the parcel as proposed or the structure is built as proposed.

"Countywide map" means a flood insurance rate map (FIRM) that shows flood information for the entire geographic area of a county, including the incorporated communities within the county.

"Critical feature" means an integral and readily identifiable part of a flood protection system, (e.g. dams, floodwalls, channel improvements), without which the flood protection provided by the entire system would be compromised.

"Critical structure" means a structure for which even a slight chance of flooding would reduce or eliminate its designed function of supporting a community in an emergency (fire stations, hospitals, etc.).

"Curvilinear line" means the border on either a FHBM or FIRM that delineates the special flood and/or flood related erosion hazard areas and consists of a curved or contour line that follows the topography.

"Date of construction" means the date the building permit was issued provided the actual start of construction, repair, reconstruction, or improvement was within one hundred eighty (180) days of the permit date.

"Designated floodway" means the channel of a stream and the portion of the adjoining floodplain designated by a regulatory agency to be kept free of further development to provide for unobstructed passage of flood flows.

"Development" means any manmade 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 located within the area of special flood hazard.

"Diagram number" means the number(s) on the FEMA elevation certificate that identify various types of buildings.

"Doublewide manufactured home" means a manufactured home that, when assembled as a non-movable, permanent building is at least sixteen (16) feet wide with an area within its perimeter walls of at least six hundred (600) square feet. A doublewide is not classified as a manufactured (mobile) home for insurance rating purposes under the NFIP, but is to be classified under one (1) of the other building types.

"Dry proofing" means a floodproofing method used to design and construct buildings so as to prevent the entrance of floodwaters.

"Elevated building" means a non-basement building that has its lowest elevated floor raised above the ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

"Elevations certificate" means the document that is required in order to properly rate post-FIRM buildings (buildings constructed after publication of the flood insurance rate map). An elevation certificate is not required for pre-FIRM buildings unless the building is being rated under the optional post-FIRM flood insurance rules.

"Enclosure" means that portion of an elevated building below the lowest elevated floor that is either partially or fully shut-in by rigid walls.

"Encroachment" means the advance of infringement of uses, plant growth, excavation, fill, buildings, permanent structures or development, storage of equipment and materials, or any other physical object placed in the floodplain that hinders the passage of water or otherwise affects flood flows.

"Erosion" means the process of the gradual wearing away of any landmass.

"Existing construction" means, for the purpose 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 for which the construction of facilities for servicing the lot on which the manufactured homes are to be affixed (including, at a minimum, installation of utilities, either final site grading or the pouring of concrete pads and the construction of streets) are 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 servicing 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).

"Federal Emergency Management Agency (FEMA)" means the federal agency under which the National Flood Insurance Program (NFIP) is administered.

"Federal Insurance Administration" means the government unit, a part of the Federal Emergency Management Agency (FEMA) that administers the National Flood Insurance Program (NFIP).

"Flash flood" means a flood that crests in a short period of time and is often characterized by high velocity flows. It is often the result of heavy rainfall in a localized area.

"Flood," "flooding," or "floodwaters" 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; and/or
2. The unusual and rapid accumulation or runoff of surface waters from any source.

"Flood control" means keeping flood waters away from specific developments or populated areas by the construction of flood storage reservoirs, channel alterations, dikes and levees, bypass channels or other engineering works.

"Flood frequency" means the statistical expression of the average time period between floods equaling or exceeding a given magnitude.

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

"Flood insurance study" means the official report provided in which the Federal Insurance Administration has provided flood profiles, as well as flood boundary, floodway maps and the water surface elevation of the base flood.

"Floodplain" or floodprone area" means any land area susceptible to being inundated by water from any source. (See "Flooding.")

"Floodplain administrator" means the individual who is given specific authority and responsibilities to enforce the local floodplain management regulations.

"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 and floodplain management plans, regulations and ordinances, and drainage way routine inspection and maintenance programs.

"Floodplain management regulations" means this ordinance, and any federal, state or local regulations, community zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of jurisdictional regulation which control development in floodprone areas to prevent and reduce flood loss and damage.

"Floodproofing" means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved property, water and sanitary facilities, structures, and their contents.

"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. Also referred to as the "regulatory floodway."

"Floodway encroachment lines" means the lines marking the limits of floodways on federal, state, and local floodplain maps.

"Floodway fringe" means the area of the floodplain on either side of the regulatory floodway where encroachment may be permitted.

"Flood insurance risk zone designations" means the zone designations indicating the magnitude of flood hazard in specific areas of the community.

"Flood protection system" means those physical structural works for which funds have been authorized, appropriated, and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the areas within a community subject to a "special flood hazard" and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood modifying works are those constructed in conformance with sound engineering standards.

"Footing" means the enlarged base of a foundation wall, pier, or column, designed to spread the load of the structure so that it does not exceed the soil bearing capacity.

"Foundation" or "foundation walls" means the underlying structure of a building, usually constructed of concrete that supports the main portion of the building or superstructure.

"Freeboard" means a margin of safety usually expressed in feet or inches 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 wave action, bridge openings, and the hydrological effect of urbanization of the watershed. For purposes of this chapter, freeboard shall be a minimum of twelve (12) inches above known base flood elevation, unless otherwise specified.

"Governing body" means the local governing unit, county or municipality that is empowered to adopt and implement regulations to provide for public health, safety and general welfare of its citizenry.

"Hardship" - related to variances in this ordinance. The exceptional hardship would result from a failure to grant the requested variance. This ordinance requires the variance be exceptional, unusual, and pertain only to the property involved. Mere economic or financial hardship alone is not exceptional. Inconvenience, aesthetic considerations, physical handicaps, personal preferences, or the disapproval of one's neighbors likewise cannot, as a rule, qualify as an exceptional hardship. All of these problems can be resolved through other means without granting a variance, even if the alternative is more expensive, or requires the property owner to build elsewhere, or put the parcel to a different use than originally intended.

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

"Levee" means a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

"Levee system" means a flood protection system which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

"Lowest adjacent grade (LAG)" means the ground elevation at the lowest point around the building foundation.

"Historic structure" means any structure that is:

1. Listed individually on the National Register of Historic Places, or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; or
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; or
3. 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
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.

"Hydraulics" means the science that deals with practical applications of water in motion.

"Hydrodynamic loads" means forces imposed on structures by floodwaters due to the impact of moving water on the upstream side of the structure, drag along its sides, and eddies or negative pressures on its downstream side.

"Hydrology" means the science of the behavior of water in the atmosphere, on the earth's surface, and underground.

"Hydrostatic loads" means the forces imposed on a flooded structure due to the weight of the water.

"Letter of map amendment (LOMA)" means the procedure by which any owner or lessee of property who believes his property has been inadvertently included in a special flood hazard area can submit scientific and technical information to the federal insurance administrator for review to remove the property from said area.

"Letter of map revision (LOMR)" means an official revision to a currently effective flood insurance rate map (FIRM). A LOMR officially changes flood zone, floodplain and floodway designations, flood elevations and planimetric features.

"Letter of map revision (based on fill) (LOMR-F)" means a letter from FEMA stating that an existing structure or parcel of land that has been elevated by fill would not be inundated by the base flood.

"Lowest floor" means the lowest floor of the lowest enclosed area, (including basement or crawlspace). 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 non-elevation design requirements of this chapter.

"Lowest floor elevation" means the measured distance of a building's lowest floor above the National Geodetic Vertical Datum (NGVD) or other datum specified on the FIRM for that location.

"Manufactured home" means a structure, transportable in one (1) or more sections, which is built on a permanent chassis and is designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air-conditioning and electrical systems contained therein. The term "manufactured home" shall include any structure that meets all the requirements of this definition, and is certified to have been manufactured in accordance with the U. S. Department of Housing and Urban Development Manufactured Home Construction and Safety Standards. For mobile homes built prior to June 15, 1976, a label certifying compliance with the Standard for Mobile Homes, NFPA 501, in effect at the time of manufacturing is required. For the purpose of these provisions, a mobile home shall be considered a manufactured home. The term "manufactured home" does not include "recreational vehicles."

"Manufactured (mobile) home park or subdivision" means a parcel (or contiguous parcels) of land divided into two (2) or more manufactured (mobile) home lots for rent or sale.

"Mean sea level" means, for the purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, or other datum to which base flood elevations shown on a community's flood insurance rate map are referenced.

"Mobile home." See "Manufactured home."

"Modular home (or building)" means a transportable structure, designed to be used with a permanent foundation as a dwelling unit when connected to public utility facilities, and which is built in a factory in accordance with the building standards of the city.

"National Geodetic Vertical Datum (NGVD)" means a vertical control used as a reference for establishing varying elevations within the floodplain, as corrected in 1929.

"Natural grade" means the grade unaffected by construction techniques such as fill, landscaping, or berming.

"New construction" means structures for which the start of construction commenced on or after the effective date of an initial FIRM, or after December 31, 1974, whichever is later, including any subsequent improvements.

"New 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 the effective date of floodplain management regulations adopted by a community.

"Nonresidential" includes, but is not limited to: small business concerns, churches, schools, farm and ranch buildings, poolhouses, clubhouses, recreational buildings, mercantile structures, agricultural and industrial structures, warehouses, and hotels or motels with normal room rentals for less than six (6) months duration.

"Obstruction" includes, but is not limited to, any dam, wall, 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." See "Base flood."

"Physical map revisions (PMR)" means a reprinted NFIP map incorporating changes to floodplains, floodways, or flood elevations. Because of the time and cost involved to change, reprint, and redistribute an NFIP map, a PMR is usually processed when a revision reflects large scope changes.

"Ponding hazard" means a flood hazard that occurs in flat areas when there are depressions in the ground that collect "ponds" of water. The ponding hazard is represented by the zone designation AH on the FIRM.

"Post-FIRM construction" means construction or substantial improvement that started on or after the effective date of the initial flood insurance rate map (FIRM) of the community, or after December 31, 1974, whichever is later.

"Pre-FIRM construction" means construction or substantial improvement which started on or before December 31, 1974, or before the effective date of the initial flood insurance rate map (FIRM) of the community, whichever is later.

"Public nuisance" means any structure, building, fill, excavation, development or condition(s) located or maintained within any area of special flood hazard in violation of this chapter.

"Recreational vehicle" means a vehicle built on a single chassis, four hundred (400) square feet or less when measured at the largest horizontal projections, designed to be self-propelled or permanently towable, and designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

"Regulatory floodway." See "Floodway."

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

"Sheet flow area" means the same as "Area of shallow flooding."

"Special flood hazard area (SFHA)" means the darkly shaded area on a flood insurance rate map that identifies an area that has a one (1) percent chance of being flooded in any given year (one hundred-year floodplain), and includes zones A, AO, AH, and A1-A30.

"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, placement or other improvement was within one hundred eighty (180) days of the permit date. The actual start means the first placement of permanent construction of a structure on a site, such as the pouring of slabs or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation or the placement of a manufactured home on a foundation. 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 foundations 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 as 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.

"Stop work order" means a written statement from the building official, building inspector, or floodplain administrator to halt work on a project until stated corrections are made.

"Structure" means a walled or roofed building, a mobile, manufactured or modular home or a gas or liquid storage tank that is principally above ground.

"Substantial improvement" means any repair, reconstruction, rehabilitation, addition or improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the current market value of the structure either:

1. Before the improvement or repair is started; or
2. If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either:
 - a. Any project for improvement of a structure to comply with existing state, or local health, sanitary, or safety code specifications, which are solely necessary to assure safe living conditions; or
 - b. Any alteration of an "historic structure" provided the alteration will not preclude the structure's continued designation as an "historic structure."

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

"Violation" means the failure of a structure, parcel of land, or other development to be fully compliant with this ordinance. A structure or other development in a special flood hazard area, without an elevation certificate, other certifications or other evidence of compliance required in this chapter is presumed to be in violation until such time as such documentation is provided.

"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.

"Zone", for the purposes of this chapter, means a geographical area shown on a flood insurance rate map that reflects the severity or type of flooding in the area. Within this chapter, "zone" may also refer to a classification of permitted uses within the city's zoning ordinances.

(Ord. No. 863, 10-12-2009; Ord. No. 871, 1-11-2010)

15.36.055 - Glossary of acronyms.

BFD Base flood depth

BFE Base flood elevation

BMM Benchmark maintenance

CAC Community assistance contact

CAV Community assistance visit

CLOMR Conditional letter of map revision

CRS Community rating system

DFIRM Digital (or digitized) flood insurance rate map

FECC Federal emergency communications coordinator

FEMA Federal Emergency Management Agency

FERC FEMA emergency response capability

FHBM Flood hazard boundary map

FIA Flood insurance administration

FICO Flood insurance claims office

FIRM Flood insurance rate map

FIS Flood insurance study

FRCM FEMA Regional communications manager

FRO Flood response office

HAG Highest adjacent grade

IAM Impact adjustment map

ISO Insurance services office

LAG Lowest adjacent grade

LFE Lowest floor elevation

LOMA Letter of map amendment

LOMR Letter of map revision

LOMR-F Letter of map revision-fill

MOA Memorandum of agreement

MOU Memorandum of understanding

MSL Mean sea level

NAVD North American Vertical Datum

NFIP National Flood Insurance Program

NGS National Geodetic Survey

NGVD National Geodetic Vertical Datum

NOAA National Oceanic and Atmospheric Administration

NSRS National Spatial Reference System

SFHA Special flood hazard area

OHS Office of Homeland Security

OPA Otherwise protected area

PA Public affairs

PAO Public affairs officer

PMR Physical map revision

WEMA Wyoming Emergency Management Agency

WOHS Wyoming Office of Homeland Security

(Ord. No. 863, 10-12-2009; Ord. No. 871, 1-11-2010)

15.36.060 - Lands to which this chapter applies.

This chapter shall apply to all areas of special flood hazards within the jurisdiction of the city.

(Ord. No. 863, 10-12-2009)

15.36.080 - Unlawful acts, enforcement, and penalties for noncompliance.

- A. No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this chapter and other applicable regulations.
- B. It shall be unlawful for any person to divert, retard or obstruct the flow of waters in any watercourse without first securing the written authorization from the floodplain administrator. Where the watercourse is a delineated floodplain, it shall be unlawful to excavate or build any structure affecting the flow of waters without securing written authorization from the floodplain administrator.
- C. It shall be unlawful to dispose of grass clippings, ashes, brush, fill, trash, debris, obstructions, unwanted materials, or any materials other than storm water into storm sewers, or within or along banks of man-made or natural watercourses, streams, ditches or drainages, or in adjacent floodplain areas which may wash into streams and sewers.
- D. Any person found to be in violation of this chapter shall be served with written notice stating the nature of the violation, and providing ten (10) days for the satisfactory correction thereof. The violator shall, within the period of time stated in such notice, permanently cease all violations.
- E. After notification has been received, each day that the structure or land remains in noncompliance, beyond the ten (10) days provided, shall constitute a separate offense. Nothing contained in this section shall prevent the city from taking such other lawful action as is necessary to prevent or remedy any violation.
- F. Violation of the provisions of this chapter, by failure to comply with any of its requirements, including violations of conditions and safeguards established in connection with conditions, shall constitute a misdemeanor.
 - [G]. Any person who violates this chapter or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than seven hundred fifty dollars (\$750.00) for each violation.

(Ord. No. 863, 10-12-2009)

15.36.085 - Abatement of violations.

- A. Every new structure, building, fill, excavation, development, or condition(s) located or maintained within any special flood hazard area in violation of this chapter is a public nuisance and may be abated, prevented or restrained by action of the City of Douglas.
- B. The floodplain administrator or his designee is authorized to:
 - 1. Enter upon all properties for the purpose of inspection, observation and measurement;
 - 2. Take necessary action to effect the abatement of violations;
 - 3. Order the owner of the property upon which the violation exists to provide whatever additional information may be required;
 - 4. Obtain whatever documentation is necessary, including, but not limited to elevation certificates, letter of map amendment or revision, etc.;
 - 5. Submit to the administrator of the Federal Insurance Administration a declaration for denial of insurance, stating that the property is in violation of a cited statute, local law, regulation or ordinance, pursuant to Section 1316 of the National Flood Insurance Act of 1968 as amended.

(Ord. No. 863, 10-12-2009)

15.36.090 - Abrogation and greater restrictions.

This chapter is not intended to repeal, abrogate or impair any existing easements, covenants, or deed restrictions. However, where this chapter and other ordinances, easements, covenants, or deed restrictions conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(Ord. No. 863, 10-12-2009)

15.36.100 - Interpretation.

In the interpretation and application of this chapter, all provisions shall be:

- A. Considered as minimum requirements;
- B. Liberally construed in favor of the governing body; and
- C. Deemed neither to limit nor repeal any other powers granted under state statutes.

(Ord. No. 863, 10-12-2009)

15.36.105 - 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 decisions shall not affect the validity of the chapter as a whole, or any portion thereof other than the section so declared to be unconstitutional or invalid.

(Ord. No. 863, 10-12-2009)

15.36.110 - 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 considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the city, any officer or employee thereof, the state of Wyoming, the Federal Insurance Administration, or the Federal Emergency Management Agency for any flood damages that result from reliance on this chapter or any administrative decision lawfully made thereunder.

(Ord. No. 863, 10-12-2009)

15.36.120 - Establishment of development permit.

- A. A floodplain development permit is hereby established for all construction and other development (including the placement of manufactured homes) to be undertaken in special flood hazard areas within the City of Douglas, for the purpose of protecting its citizens from increased flood hazards and ensuring new development is constructed in a manner that minimizes its exposure to flooding.
- B. A floodplain development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 15.36.020
- C. Application for a development permit shall be made on forms furnished by the floodplain administrator, and may include, but not be limited to:
 - 1. Plans in duplicate, drawn to scale showing the nature, location, dimensions and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage, facilities; and the location of the foregoing.
 - 2. Elevation in relation to mean sea level, of the lowest floor (including basement or crawlspace) of all structures;
 - 3. Elevation in relation to mean sea level to which any non-residential structure has been floodproofed;
 - 4. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in Sections 15.36.180 through 15.36.250; and
 - 5. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

(Ord. No. 863, 10-12-2009; Ord. No. 871, 1-11-2010)

15.36.130 - Designation of floodplain administrator.

The city administrator or his designated representative is appointed to administer and implement this chapter by granting or denying development permit applications in accordance with its provisions.

(Ord. No. 863, 10-12-2009)

15.36.140 - Duties and responsibilities of the floodplain administrator.

Duties of the floodplain administrator shall include, but not be limited to:

- A. Permit Review.

1. Review all development permits to determine that the permit requirements of this chapter have been satisfied;
 2. Review all development permits to determine that all necessary permits have been obtained from those federal, state, or local governmental agencies from which prior approval is required;
 3. Review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of subsection A of Section 15.36.260 are met.
- B. Use of Other Base Flood Data. When base flood elevation data has not been provided in accordance with Section 15.36.070, the floodplain administrator shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other authoritative source, in order to administer Sections 15.36.180 through 15.36.260
- C. Information to be Obtained and Maintained.
1. The floodplain administrator shall obtain and retain for public inspection and have available for the National Flood Insurance Program coordinator or the Federal Emergency Management Agency representative conducting a community assistance visit, the following:
 - a. Floodplain development permits and certificates of compliance;
 - b. Elevation certificate of the lowest floor elevations (including basement or crawlspace) of all new or substantially improved structures, and whether or not the structure contains a basement;
 - c. Floodproofing certifications required in subsection B of Section 15.36.120
 - d. Elevation certificates for proposed subdivisions required in Section 15.36.210
 - e. Certifications required for floodway encroachments;
 - f. Variances issued pursuant to Sections 15.36. 150 and 15.36.160
 - g. Notices required pursuant to Section 15.36.140 (Alteration of Watercourses).
- D. Alteration of Watercourses. Prior to issuing a permit for any alteration or relocation of watercourse the floodplain administrator must:
1. Have processed a letter of map revision (LOMR);
 2. Notify adjacent communities and the State Coordinating Agency (Wyoming Office of Homeland Security) and/or the Natural Resources Conservation Service prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency;
 3. Require that maintenance is provided within the altered or relocated portion of the watercourse so that the flood-carrying capacity is not diminished.
- E. Interpretation of FIRM Boundaries. Make interpretations where needed, as to the exact location of the boundaries of the areas of special flood hazards (for example, 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 Sections 15.36.150 and 15.36.160
- F. Inspections. The floodplain administrator or his designee shall make periodic inspections throughout the period of construction to monitor compliance with the requirements of the floodplain development permit and this chapter.
- G. The floodplain administrator shall issue, or cause to be issued, a stop work order for any floodplain development found to be non-compliant with the provisions of this chapter or conditions of the development permit, and all development found ongoing without a floodplain development permit. Disregard of a stop work order shall subject the violator to the penalties described in Section 15.36 .080 of this chapter.

(Ord. No. 863, 10-12-2009; Ord. No. 871, 1-11-2010)

15.36.145 - Nature of variances.

The variance criteria set forth in this chapter are based on the general principal of zoning law that variances pertain to a piece of property and are not personal in nature. A variance may be granted for a parcel of property with physical characteristics so unusual that complying with the requirements of this chapter would create an exceptional hardship to the applicant or the surrounding property owners. The characteristics must be unique to the property and not be shared by adjacent parcels. The unique characteristic must pertain to the land itself, not to the structure, its inhabitants, or the property owners.

It is the duty of the board of appeals to help protect its citizens from flooding. This need is so compelling and the implications of the cost of insuring a structure built below flood level are so serious that variances from the floodplain management regulations are quite rare. 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 chapter 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.

(Ord. No. 863, 10-12-2009)

15.36.150 - Variance procedure.

- A. The board of appeals, as established by the city, shall hear and decide appeals and requests for variances from the requirements of this chapter.
- B. The board of appeals shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the administrative authority in the enforcement or administration of this chapter.
- C. Those aggrieved by the decision of the board of appeals, or any taxpayer, may appeal such decision to the District Court, state of Wyoming, as provided in state statutes.
- D. In passing upon such applications, the appeal board shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter, and:
 - 1. The danger that materials may be swept onto other lands to the injury of others;
 - 2. The danger to life and property due to flooding or erosion damage;
 - 3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner and future owners of the property;
 - 4. The importance of the 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 alternative locations, for the proposed use which are not subject to flooding or erosion damage;
 - 7. The compatibility of the proposed use with existing and anticipated development;
 - 8. The relationship of the proposed uses 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 floodwaters and the effects of wave action, if applicable, expected at the site; and
 - 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, and water systems, and streets and bridges.
- E. Upon consideration of the factors of subsection D of this section and the purposes of this chapter, the board of appeals may attach such conditions to the granting of variances as it deems necessary to further the purposes of this chapter.
- F. The floodplain administrator shall maintain the records of all appeal actions and the justification for their issuance, including technical information, and report such variances issued in the biennial report submitted to the Federal Insurance Administration, Federal Emergency Management Agency.
- G. Any applicant to whom a variance is granted shall be given written notice over the signature of the floodplain administrator that:
 - 1. The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance coverage;
 - 2. Such construction below the base flood level increases risks to life and property. A copy of the notice shall be recorded by the floodplain administrator in the office of the converse county recorder, and shall be recorded in a manner so that it appears as an exception on the title of the affected parcel of land.

(Ord. No. 863, 10-12-2009)

15.36.160 - Conditions for variances.

- A. Generally, variances may be issued for new construction, substantial improvements, and other proposed new development to be erected on a lot of one-half (½) acre or less in size, contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing items 1 through 11 in subsection D of Section 15.36.150 have been fully considered. As the lot size increases beyond the one-half (½) acre, the technical justification required for issuing the variance increases.
- B. Variances may be issued for the repair, reconstruction, rehabilitation or restoration of "historic structures"(as defined in Section 15.35.050) upon determination that the proposed repair, reconstruction, rehabilitation or restoration 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.
- C. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- D. 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 chapter.
- E. Variances shall only be issued upon:

1. A showing of good and sufficient cause;
2. A determination that failure to grant the variance would result in exceptional hardship to the applicant; and
3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create a nuisance, cause fraud on or victimization of the public as identified in subsection D of Section 15.36.150, or conflict with existing local laws or ordinances.

(Ord. No. 863, 10-12-2009)

15.36.170 - Provisions for flood hazard reduction.

In all areas of special flood hazard, the standards set out in Sections 15.36.180 through 15.36.260 are required.

(Ord. No. 863, 10-12-2009)

15.36.180 - Anchoring of construction.

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

(Ord. No. 863, 10-12-2009)

15.36.190 - Construction materials and methods.

- A. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- B. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
- C. All new construction and substantial improvements shall be constructed 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, or shall be floodproofed when required by other parts of this chapter.
- D. All new construction shall have adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.

(Ord. No. 863, 10-12-2009)

15.36.200 - Utilities.

- A. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
- B. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters. Sanitary sewer and storm drainage systems for buildings that have openings below the base flood elevation shall be provided with automatic backflow valves or other automatic backflow devices that are installed in each discharge line passing through a building's exterior wall.
- C. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

(Ord. No. 863, 10-12-2009)

15.36.210 - Subdivision standards.

- A. All subdivision proposals and other proposed developments, including proposals for manufactured home parks and subdivisions, shall:
 1. Be consistent with the need to minimize flood damage;
 2. Have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
 3. Have adequate drainage provided to reduce exposure to flood damage.
- B. Base flood elevation data, including elevation certificate(s) shall be provided for all subdivision proposals and other proposed developments that include land located within a special flood hazard area.
- C. Both preliminary and final subdivision plats shall include delineation of any land located in the one hundred-year flood plain. Such land shall be set aside as open space, drainage or flowage easements, back yards, or otherwise kept free from development.
- D. All subdivision proposals and other proposed developments, including proposals for manufactured home parks and subdivisions that include any land located within the one hundred-year floodplain will demonstrate, by providing detailed hydrologic and hydraulic analyses, that the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood.

(Ord. No. 863, 10-12-2009)

15.36.215 - Critical structures standards.

Critical structures are not authorized in a special flood hazard area, unless all alternative locations have been considered and rejected. If the floodplain manager determines the only practical location for the development of a new or substantially improved critical structure is in a special flood hazard area, the floodplain administrator must give public notice of the decision and reasons for the elimination of all alternative locations.

(Ord. No. 863, 10-12-2009)

15.36.230 - Residential construction.

- A. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated a minimum of twelve (12) inches above base flood elevation ("freeboard"), or elevated at least two (2) feet above the highest adjacent grade if no base flood elevation is specified. Crawl spaces shall be considered basements, unless constructed as "below grade crawlspaces" to the specifications listed below.
- B. New construction and substantial improvement of any below-grade crawlspace shall meet the following criteria:
1. Interior grade elevation below base flood elevation shall be no lower than two (2) feet below the lowest adjacent grade;
 2. Height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the foundation wall, shall not exceed four (4) feet at any point;
 3. Have an adequate drainage system to permit flood waters to drain from the interior area of the crawlspace within a reasonable time following the flood;
 4. The velocity of floodwaters at the site should not exceed five (5) feet per second for any crawlspace. For velocities in excess of five (5) feet per second, other foundation types should be used.
 5. Be anchored to prevent flotation, collapse, or lateral movement of the structure, and be capable of resisting hydrostatic and hydrodynamic loads;
 6. Be constructed with materials and utility equipment resistant to flood damage using methods and practices that minimize flood damage;
 7. Be constructed with electrical heating, ventilation, plumbing, and air conditioning equipment and other service facilities designed and/or located to prevent water from entering or accumulating within the components during conditions of flooding;
 8. Be designed to automatically equalized 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 or architect, or must meet or exceed the following minimum criteria:
 - a. A minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding shall be provided;
 - b. The bottom of all openings shall be no higher than one (1) foot above grade;
 - c. Openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic entry and exit of floodwaters;
 - d. Any other applicable criteria listed in Technical Bulletin 11-01 (Crawlspace Construction for Buildings Located in Special Flood Hazard Areas) as published by the Federal Emergency Management Agency—Federal Insurance and Mitigation Administration.
- C. Upon completion of the structure, the elevation of the lowest floor, including basement or crawlspace, shall be certified by a registered professional engineer or surveyor and verified by the building official to be properly elevated. The certification shall be provided to the floodplain administrator using the current FEMA elevation certificate.

(Ord. No. 863, 10-12-2009)

15.36.240 - Nonresidential construction.

New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated a minimum of twelve (12) inches above base flood elevation ("freeboard"); or, together with attendant utility and sanitary facilities, shall:

- A. Have the lowest floor, including basement, elevated at least two (2) feet above highest adjacent grade if no base flood elevation is available;
- B. Be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
- C. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
- D. Be certified by a registered professional engineer or architect that the standards of this section are satisfied. Such certifications shall be provided to the floodplain administrator.

(Ord. No. 863, 10-12-2009)

15.36.245 - Areas below the lowest floor.

All new construction and substantial improvements 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 floodwaters. Designs for meeting this requirement shall follow the guidelines in FEMA Technical Bulletins TB 1-93 (Openings in Foundation Walls for Buildings Located in Special Flood Hazard Areas) and TB 7-93 (Wet Floodproofing Requirements for Structures Located in Special Flood Hazard Areas), and must either be certified by a licensed professional engineer or architect to meet or exceed the following minimum criteria:

- A. Must have a minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding;
- B. The bottom of all such openings will be no higher than one (1) foot above the lowest adjacent finished grade.

Openings may be equipped with louvers, valves, screens or other coverings or devices provided they permit the automatic entry and exit of floodwaters.

(Ord. No. 863, 10-12-2009)

15.36.250 - Manufactured homes.

All manufactured homes to be placed or those to be substantially improved shall be elevated on a permanent foundation such that the lowest floor of the manufactured home (including basement or crawlspace) is a minimum of twelve (12) inches above the base flood elevation (freeboard) and is securely anchored to an adequately anchored foundation system to resist floatation, collapse, and lateral movement.

Manufactured homes located in areas designated under Title 18 of this code as mobile home park zones (MH-2), or that have been grandfathered to allow manufactured (mobile) home use, shall be elevated so that the bottom of the structural frame or the lowest point of the manufactured home will be a minimum of twelve (12) inches above base flood elevation (freeboard), or at least three (3) feet above highest adjacent grade when no base flood elevation is available, and be securely anchored to resist floatation, collapse, and lateral movement. Methods of anchoring may include, but are not limited to, reinforced piers or other foundation elements of at least equivalent strength, over-the-top or frame ties to ground anchors. (See FEMA publication "Manufactured Home Installation In Flood Hazard Areas.") This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.

(Ord. No. 863, 10-12-2009)

15.36.255 - Standards for recreational vehicles

All recreational vehicles placed on sites within any special flood hazard area as indicated on the flood insurance rate map shall either:

- A. Be on site fewer than one hundred eighty (180) consecutive days;
- B. 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 security devices, and has no permanently attached additions; or
- C. Will meet the permit requirements of Section 15.36.120 and the elevation and anchoring requirements for manufactured homes in Section [15.36.250].

(Ord. No. 863, 10-12-2009)

15.36.260 - Floodways.

Located within areas of special flood hazard established in Section 15.36.020 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

- A. Prohibit encroachments, including fill, new construction, substantial improvements, storage of equipment or supplies, and other development unless it has been demonstrated through hydrologic and hydraulic analyses, performed in accordance with standard engineering practice that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge, and the Federal Emergency Management Agency has issues a conditional letter of map revision (CLOMR);
- B. If subsection A of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood-hazard reduction provisions of Sections 15.36.170 through 15.36.250

(Ord. No. 863, 10-12-2009)