TEXT HIGHLIGHTED IN YELLOW ARE ADDITIONS TO THE CODE, STRIKETHROUGH IS DELETIONS

Title 20 Consolidated Development Code

20.50 Floodplain Management

20.50.010 Statutory authority

Pursuant to Nevada Revised Statues Chapters ~~NRS~~ 278~~.020~~, 244~~A.057~~, and 543, including Sections

278.020, 244A.057, and 543.020 the county adopts the following floodplain management regulations. (Ord. 763, 1996)

20.50.020 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 flooding in specific areas through the implementation of provisions designed to

A. Protect human life and health, protect the floodplain, and minimize adverse impact;

B. Minimize expenditure of public money for costly flood control projects;

C. Minimize the need for rescue and relief efforts associated with flooding, which are usually at the expense of the general public;

D. Minimize prolonged business interruptions;

E. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, and streets and bridges located in special flood hazard areas;

F. Help maintain a stable tax base by providing for the sound use and development of special flood hazard areas and X-shaded flood zones to minimize property devaluation resulting from flood damage and events;

G. Ensure property owners and potential property owners are notified when property is located in special flood hazard areas;

H. Ensure those who occupy special flood hazard areas assume responsibility for their actions;

I. Coordinate with local partners to implement the Carson River Regional Floodplain Management Plan;

J. Maintain qualifying standards for participation in the National Flood Insurance Program; and

K. Comply with applicable Code of Federal Regulations. (Ord. 1251, 2008; Ord. 763, 1996; Ord. 472, 1987; Ord. 331, 1980; Ord. 158, 1956)

20.50.030 Statement of Fact

A. Portions of Douglas County are subject to periodic inundation by flood waters which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

B. These flood losses are caused by uses that are inadequately elevated, flood-proofed, or protected from flood damage. The cumulative effect of obstructions in flood-prone areas increases flood heights and velocities, which also contribute to flood losses. (Ord. 1251, 2008; Ord. 763, 1996)

~~20.50.050~~ 20.50.040 Intent

The intent of this chapter is to incorporate development standards that further the purpose as follows:

A. Restrict or prohibit uses that are dangerous to health, safety, and property due to water or erosion hazards, or that result in damaging increases in erosion, flood heights or velocities;

B. Require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction;

C. Control the alteration of natural floodplains, alluvial fans, stream channels, and natural protective barriers, that help accommodate or channel flood waters;

D. Control filling, grading, dredging, and other development that may increase flood damage; and

E. Prevent or regulate the construction of flood barriers that will unnaturally divert flood waters or which may increase flood hazards in other areas. (Ord. 1251, 2008; Ord. 763, 1996)

~~20.50.060~~ 20.50.050 Applicability

This ordinance applies to all properties within the county that are located within a FEMA designated special flood hazard area and to all construction and development projects within the designated special flood hazard areas and X-shaded flood zone. For the purposes of this chapter, the special flood hazard area and X-shaded flood zone identified by the Federal Insurance Administration (FIA) in the Douglas County, Nevada and Incorporated Areas Flood Insurance Study (FIS) and accompanying Flood Insurance Rate Maps (FIRM) dated ~~November 8, 1999~~ January 20, 2010, and all subsequent amendments and revisions are adopted by reference and declared to be a part of the ~~ordinance~~ Chapter. The FIS and attendant mapping is the minimum area of applicability of this ~~ordinance~~ Chapter and may be supplemented by studies for other areas that allow implementation of this ~~ordinance~~ Chapter and that are recommended to the board by the administrator. The FIS and FIRM are on file with the community development department. (Ord. 1251, 2008; Ord. 801, 1997; Ord. 763, 1996; Ord. 472, 1987; Ord. 331, 1980)

~~20.50.070~~ 20.50.060 Warning and disclaimer of liability

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on available information derived from engineering and scientific methods of study. ~~scientific and engineering considerations.~~ Larger floods can and will occur on occasion. Flood depths or heights may be increased by man-made or natural causes. This ~~ordinance~~ Chapter does not imply that land outside special flood hazard areas and the X-shaded flood zones or uses permitted within these areas will be free from flooding or flood damages. This ~~ordinance~~ Chapter does not create liability on the part of the county, any officer or employee, the state, the Federal Insurance Administration, or FEMA, for any flood damages that result from reliance on this ordinance or any lawful administrative decision. (Ord. 1251, 2008; Ord. 801, 1997; Ord. 763, 1996)

~~20.50.020~~ 20.50.070 Definitions

Definitions of many of the words used in this Chapter are contained in Appendix A to Title 20. Unless specifically defined in Appendix A to Title 20 or in this ordinance, or as used in Title 20, the words and

phrases used in this Chapter should be interpreted to give them the meaning they have in common usage and to give this Chapter it's most reasonable application. (Ord. 1251, 2008)

~~20.50.160~~ 20.50.080 Adverse impact

For purposes of this chapter adverse impact means that no new construction, substantial improvements, or other development, including fill, may be permitted within the special flood hazard areas unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community. Adverse impact does not include a reduction in the base flood elevation or the floodplain or property not owned by the applicant. (Ord. 1251, 2008)

~~20.50.170~~ 20.50.090 No-rise certification

For purposes of this chapter, no-rise means no increase in flood heights upstream, downstream or adjacent to the parcel that is located in the vicinity of a regulatory floodway. The no-rise certification shall be supported by technical data and signed by a professional engineer licensed in the state of Nevada. The supporting technical data shall be based on a FEMA approved model used to develop the 100-year floodway shown on the FIRM and the results tabulated in the Flood Insurance Study. In a special flood hazard area a no-rise certification must be submitted for any construction or other development that is permitted to proceed without a CLOMR on a form approved by the administrator and prepared by a professional engineer licensed in the state of Nevada. (Ord. 1251, 2008)

~~20.50.180~~ 20.50.100 Substantial improvement and Substantial Damage Definition

A. For purposes of this chapter, cumulative substantial improvement means the ~~cumulative~~ improvements, modifications, or additions to existing buildings area counted cumulatively for at least five years and reconstruction and repairs to damaged buildings are counted cumulatively for at least five years. When the improvements, modifications, additions, reconstruction or repairs ~~reconstruction, rehabilitation, addition, or improvement to a structure within a five year period, the cost of which equals or~~ exceeds the 50 percent substantial improvement threshold, the entire structure must be brought up to current floodplain standards. ~~of the market value of the structure before the start of construction of the improvement. Substantial improvements includes structures which have incurred substantial damage, regardless of the actual repair work performed.~~

B. For the purposes of this Chapter, cumulative Substantial Damage means the total cost of all repairs to a repetitive loss structure shall not cumulatively increase the market value of the structure more than 49 percent of the market value during the life of the structure. When the improvements, modifications, additions, reconstruction or repairs equals or exceeds the 50 percent substantial damage threshold, the entire structure must be brought up to current floodplain standards. The term does not, however include either:

1. Any project for improvement of a structure to correct existing violations or state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or

2. Any repair of flood damage to ~~alteration of~~ a “historic structure”, provided that the ~~alteration~~ repair will not preclude the structure's continued designation as a “historic structure”. For purposes of determining substantial improvement, historic structure means any structure that is:

a. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register.

b. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

c. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or

d. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program as determined by the Secretary of the Interior or directly by the Secretary of the Interior in states without approval programs.

B. For the purposes of determining substantial improvements and substantial damage, market value pertains only to the structure in question. It does not include the land, landscaping or detached accessory structures on the property. (Ord. 1251, 2008)

20.50.110 Hydrology and Hydraulic ~~studies~~ Study Requirements

All hydrology and hydraulic studies (also known as Flood Impact Analysis) referenced in this ~~ordinance~~ Chapter must be by a professional engineer licensed in the state of Nevada and meet FEMA standards for hydrology and hydraulic studies submitted for the approval of CLOMRs and LOMRs. Except for areas were FEMA allows the use of the approximate method, the preferred modeling tool to determine changes to the base flood elevations and the floodplain boundary shall be the current acceptable version of HEC-RAS. (Ord. 1251, 2008)

~~20.50.130~~ 20.50.120 CLOMR~~s~~ and LOMR~~s~~ Requirements

A. If a hydrology and hydraulics study required under ~~20.50.100~~ 20.50.170 Special Requirements for Land Division in Special Flood Hazard Areas, or ~~20.50.110~~ 20.50.180 Floodplain Development Review Permit, demonstrates the proposed development will cause greater than 0.5 feet of change to the BFE or injure other property, a CLOMR must be obtained from FEMA.

B. If a hydrology or hydraulics study required under ~~20.50.100~~ 20.50.170 or ~~20.50.110~~ 20.50.180 demonstrates the proposed development will expand the floodplain boundary of the effective FIRM utilizing the Corrected Effective Model or the Effective Model, as recognized by FEMA, a LOMR must be obtained from FEMA.

C. When a CLOMR is required, it must be submitted to the county for review in a form acceptable to FEMA, notebook style format is preferred. Once the application is approved as to form and content, and it meets the requirement of this code, the county will send it to FEMA. The county must complete its initial review within 50 days and the review of a resubmitted application within 30 days.

D. When a CLOMR is required to meet the requirement of ~~20.50.110~~ 20.50.180, the applicant must send notice, in the form of a letter, to any land owner affected by the project whose property will have any increase in the base flood elevation.

E. A FEMA approved CLOMR is not required for:

1. A residential dwelling unit or accessory structure on an existing A-19 agricultural parcel that meets the construction requirements of Section ~~20.50.120~~ 20.50.230 Standards for Construction, provided the applicant provides an elevation certificate either by the approximate method under FEMA regulations or a hydrology and hydraulics study prepared by a professional engineer licensed in the state of Nevada.

2. Accessory buildings, additions, or similar small projects located in the conveyance shadow within which the applicant demonstrated the addition of a new structure will not impact existing flood flows.

3. Minor projects, such as signposts, telephone poles, barbed wire and other fences that do not block flow, driveways or parking lots at grade.

4. Other construction or development not impacting a watercourse shown by a hydrology and hydraulics study to produce no net change in the base flood elevation.

5. Ranch Heritage parcel(s) or Agricultural 2-acre parcel(s) lawfully created pursuant to chapter 20.714, provided no more than one foot of fill above existing grade is used for the new construction, including driveways or streets serving the parcel(s). The parcel(s) must meet the construction requirements of section ~~20.50.120~~ 20.50.230. (Ord. 1251, 2008)

F. If a CLOMR is required, a LOMR application must be submitted to Community Development prior to issuance of the notice of completion or certificate of occupancy. The notebook-style format is the preferred submittal for both a CLOMR and LOMR by FEMA and Douglas County. Prior to the issuance of any (residential or non-residential) building permit, a FEMA approved LOMR must be submitted to the County if the proposed BFE is less than that shown on the current effective FIRM. If the improvements required of the FEMA approved CLOMR are done under a site improvement permit then a special condition shall be placed on the permit requiring the submittal of the LOMR to the County to be forwarded to FEMA for approval and then approved by FEMA prior to issuance of a Certificate of Occupancy.

20.50.130 Conditional Letter of map Revision and Letter of Map Revisions based on fill Procedure
Prior to filing a Conditional Letter of Map Revision based on fill (CLOMR-F) or a Letter of Map Revision basin on fill (LOMR-F) to FEMA for properties in the special flood hazard area, a property owner must submit the CLOMR-F and/or LOMR-F to Douglas County for review.

20.50.140 Letter of map amendment (LOMA) Procedure

Prior to filing a Letter of Map Amendment (LOMA) to FEMA for properties in the floodway, a property owner must submit the LOMA to Douglas County for review. If the property is not located within the floodway and the owner believes the property has been inadvertently included in the special flood hazard area, the property owner may submit a LOMA to the Federal Insurance Administrator for review. These procedures do not apply when there has been any alteration of topography since the effective date of the first FIRM showing the property within the special flood hazard area. (Ord. 1251, 2008; Ord. 801, 1997; Ord. 763, 1996; Ord. 472, 1987; Ord. 331, 1980).

~~A. The following administrative procedures are provided to have the Federal Insurance Administrator review information from an owner or lessee of property who believes his property has been inadvertently included in a special flood hazard area. These procedures do not apply when there has been any alteration of topography since the effective date of the first FIRM showing the property within a special flood hazard area. The scientific or technical information submission may include, but is not limited to the following:~~

~~1. An actual copy of the recorded map bearing the seal of the county recorder, including recording information;~~

~~2. A topographical map showing:~~

~~a. Ground elevation contours in relation to the NAVD88 or vertical datum of the effective map;~~

~~b. The total area of the property in question;~~

~~c. The location of the structure or structures located on the property in question;~~

~~d. The elevation of the lowest adjacent grade to a structure or structures; and~~

~~e. An indication of the curvilinear line, which represents the area subject to inundation by a base flood. The curvilinear line should be based upon information provided by an appropriate authoritative source, such as a federal agency, department of water resources, a county water control district, the county engineer, a FEMA Flood Insurance Study, or a determination by a professional engineer licensed in the state of Nevada;~~

~~3. A copy of the FIRM indicating the location of the property in question;~~

~~4. A certification by a professional engineer or land surveyor licensed in the state of Nevada that the lowest grade adjacent to the structure is above the base flood elevation; and~~

~~5. The completion of the appropriate forms in the FEMA's Packet, Amendments and Revisions To National Flood Insurance Program Maps. (Ord. 1251, 2008; Ord. 801, 1998; Ord. 763, 1996; Ord. 472, 1987; Ord. 331, 1980)~~

~~20.50.080~~ 20.50.150 Designation of county floodplain administrator

The director of the community development department is appointed county floodplain administrator and is responsible for administration and implementation of this chapter. For the purposes of this chapter the county floodplain administrator will be referred to as "administrator". (Ord. 1251, 2008; Ord. 801, 1997; Ord. 763, 1996; Ord. 472, 1987; Ord. 331, 1980)

~~20.50.090~~ 20.50.160 Duties and responsibilities of county floodplain~~t~~ administrator

Duties and responsibilities of the administrator or designee of the administrator include, but are not limited to the following:

A. Floodplain development review permit application ~~review~~ (see 20.50.180 Floodplain Development Review Permit). A floodplain development review permit (for residential or non-residential) will not be issued for a parcel or parcels within, or that has construction on a parcel with any portion within, a special flood hazard area ~~or the X-shaded flood zone~~ until the administrator has confirmed that:

1. The permit application is complete and consistent with the provisions and standards of this chapter;

2. All required state and federal permits have been issued; and

3. Proposed development in a designated special flood area will have no adverse impact to the floodplain. ~~and any construction or other improvement in the X-shaded flood zone will not encroach into the special flood hazard area.~~

B. Alteration of watercourses. Before a permit may be issued for any alteration or relocation of a watercourse the administrator must:

1. Confirm the applicant has a conditional letter of map revision (CLOMR).

2. Verify that the applicant has notified all affected property owners and communities, Nevada's State Floodplain Manager, Nevada Division of Water Resources, and FEMA.

3. Determine that the permit holder has provided for maintenance within the altered or relocated portion of the watercourse, based on information provided by the applicant, so that the flood carrying capacity is not diminished.

C. Inspections. ~~The administrator must make~~ Periodic inspections throughout the period of construction in order to monitor compliance with the requirements of the floodplain development review permit, elevation certificate, FEMA approved CLOMR, or any variance provisions.

D. Stop work orders. The administrator may issue, or cause to be issued, a stop work order for any floodplain development not in compliance with the provisions of this chapter, conditions of the development permit, or all development proceeding without a valid development permit.

E. Retaining floodplain development documentation. The administrator must obtain, retain for public inspection, and have available for the National Flood Insurance Program and FEMA representative the following:

1. Floodplain development review permits and certificates of compliance;

2. Certification for lowest floor elevation;

3. Certification for elevation or flood-proofing of nonresidential structures;

4. Certification of elevation required as a part of division of land;

5. Certification for floodway encroachments also referred to as a "no-rise certification by the National Flood Insurance Program (NFIP);

6. Variances issued pursuant to this chapter;

7. Notices required for alteration of watercourses;

8. Any notices required for the addition of fill;

9. Copies of approved elevations, footing details, and site plans; and

10. Copies of approved CLOMRs and letter of map revision (LOMR)s.

F. Map determinations. The administrator may make map interpretations where needed, as to the location of the boundaries of special flood hazard areas and where there appears to be a conflict between a mapped boundary and actual field conditions. The administrator may determine the best information available in making the map determinations. Applicants must provide documentation to assist the administrator in making the determination when requested by the administrator.

G. Submission of new technical data to FEMA. When the administrator has received technical or scientific data that the base flood elevation has either increased or decreased resulting from physical changes affecting flooding conditions, the administrator will submit the technical or scientific data to FEMA, as soon as practical, after the date technical information confirming the physical changes becomes available. The technical or scientific data provided to the administrator shall meet the FEMA notebook-style format as preferred.

H. Appeals. Appeals of the decision of the administrator must be made in accordance with chapter 20.28 of this code. (Ord. 1251, 2008; Ord. 801, 1997; Ord. 763, 1996)

~~20.50.110~~ 20.50.170 Special requirements for land division in special flood hazard areas

A. For proposed residential or commercial/industrial land division in a special flood hazard area, or land division affected by revised Flood Insurance Rate Map (FIRM) by inclusion into the Special Flood Hazard Area (SFHA), the applicant must submit the following information:

1. A floodplain development review permit application with a hydrology and hydraulics study that demonstrates that the developed project will not cause any adverse impact to the floodplain. If the study shows change in the base flood elevation (BFE) of greater than 0.5 feet, injury to other property or expands the floodplain boundary of the effective FIRM utilizing the Corrected Effective Model or the Effective Model, as recognized by FEMA the applicant must comply with Section 20.50.120. If a CLOMR and LOMR are required under Section 20.50.120, the final map may not be recorded or any work permitted under a site improvement permit until the CLOMR is approved by FEMA. Applicants must notify all impacted property owners and communities, and as applicable: Nevada's State Floodplain Manager, Nevada Division of Water Resources, FEMA, and other regulatory agencies of any proposed changes to the floodplain on a form provided by the County, and provide proof of the notification.

~~Any land division proposal creating lots of less than 19 net acres under Chapter 20.708 Subdivisions or section 20.712.050 Serial parcel maps for land that is within, or that has construction partially within, a special flood hazard area; an applicant must comply with the following requirements:~~

~~A. The applicant must submit the following information:~~

~~1. A hydrology and hydraulics study that demonstrates that the developed project will not have any adverse impact.~~

2. Tentative subdivision or serial parcel maps and grading plans that:

a. identify the special flood hazard area, x-shaded areas, and the base flood elevation;

b. provide the elevation of proposed structures or building pads.

B. Land may not be divided for residential purposes that will result in the creation of a parcel that is less than 19 net acres, unless the applicant shows that:

1. The parcels may be lawfully created pursuant to section 20.664.095 or are Ranch Heritage parcel(s) or Agricultural 2-acre parcel(s) lawfully created pursuant to chapter 20.714; or

2. The portion of the land in the special flood hazard area will be contained on a single parcel; and

3. The land within the special flood hazard area is retained in a natural state including, without limitation, no solid fencing that impedes the flow of floodwaters or other improvements; and

4. The land within the special flood hazard area is held in common or single ownership with any overlying drainage easement; and

5. A property owner's association or similar entity is legally responsible for maintenance of the land in the special flood hazard area in its natural state.

~~D. Existing parcels less than 19 net acres in special flood areas may not be divided for residential purposes. (Ord 1251, 2008).~~

~~20.50.100~~ 20.50.180 Floodplain development review permits

A floodplain development review permit must be obtained before any construction (residential or non-residential), land division, building permit, or site improvement permit, including without limitation, substantial improvements, or other development, is undertaken on a parcel or parcels contained within, or that has construction on a parcel with any portion within, a special flood hazard area. ~~or X-shaded flood zone.~~ A floodplain permit is not required for certain agricultural activities, including but not limited to, cleaning irrigation ditches, leveling of fields, construction or maintenance of irrigation structures, or storage areas of agricultural products.

A. Floodplain development review permit procedures:

Application for a floodplain development review permit must be made on forms furnished by the administrator. The property owner or their authorized representative must tender a completed Floodplain Development Review Permit application to the Community Development Department. The application must contain the following information:

i. A legal description of the land on which the proposed work is to be done, street address, or similar description that identifies and definitely locates the proposed site.
ii. A description of development and site information.
iii. Identification of the special flood hazard area, base flood elevation (if known), floodway, elevation of the proposed development site, and elevation/flood-proofing requirements.

B. A Floodplain Development Review Permit is required for CLOMRs, LOMRs, LOMAs (only when property is located in the regulatory floodway AE with cross-hatch on FIRM), CLOMR-Fs, LOMR-Fs and Flood Impact Analyses, or no-rise certifications.

~~An applicant for a floodplain development permit must comply with the following requirements:~~

20.50.190 Development in Special Flood Hazard Areas

~~A. Special Flood Hazard Areas.~~

~~Applicants must notify all impacted property owners and communities, and as applicable: Nevada's State Floodplain Program Manager, Nevada Division of Water Resources, FEMA, and other regulatory~~

~~agencies of any proposed changes to the floodplain on a form provided by the county, and provide proof of the notification.~~

When a parcel is partially within a special flood hazard area, any proposed construction, including without limitation, substantial improvements or other development on the parcel not within the special flood hazard area is exempt from the requirements of this subsection when the applicant provides a survey by a licensed engineer delineating the floodplain boundaries on the parcel, an elevation certificate and proof the proposed construction, substantial improvement or other development does not encroach into the special flood hazard area.

Whenever the proposed construction, including without limitation, substantial improvements or other development will be undertaken in a designated special flood hazard area, the applicant must comply with the provisions of ~~20.50.120~~20.50.230 Standards for Construction and provide at minimum the following information, unless inapplicable:

~~1. A hydrology and hydraulics study that demonstrates the proposed development will not cause any adverse impact, as defined in this chapter. If the study shows change in the base flood elevation (BFE) of greater than 0.5 feet, injury to other property or expands the floodplain boundary of the effective FIRM utilizing the Corrected Effective Model or the Effective Model, as recognized by FEMA the applicant must comply with the section 20.50.130.~~

~~2. For existing residential lots and residential or commercial/industrial lots tentatively approved by subdivision or parcel maps prior to the effective date of this ordinance, the following shall apply:~~

~~a. For existing residential lots a hydrology and hydraulic study and CLOMR is not required.~~

~~b. For residential lots tentatively approved and previously conditioned to comply with the floodplain management chapter, the applicant shall prove that the impact to the BFE is not greater than 1 foot; where applicable approximate method(s) may be used. If the impact to the BFE is greater than 1 foot, then a CLOMR and LOMR is required.~~

~~c. For commercial/industrial lots tentatively approved and previously conditioned to comply with the floodplain management chapter, the applicant shall prove that the impact to the BFE is not greater than 1 foot; where applicable approximate method(s) may be used. If the impact to the BFE is greater than 1 foot, then a CLOMR and LOMR is required.~~

~~d. For any tentatively approved lot affected by a revised FIRM by inclusion into a special flood hazard area, the applicant shall prove that the impact to the BFE is not greater than 1 foot; where applicable the approximate method(s) may be used. If the impact to the BFE is greater than 1 foot, then a CLOMR and LOMR is required.~~

~~3~~ 1. Plans drawn to scale in duplicate showing:

a. Location of all regulatory floodways~~,~~ and special flood hazard areas~~, and X-shaded flood zones~~.

b. Location, dimension, and elevation of the area in question, existing or proposed structures, and location of materials and equipment stored on the site.

c. Proposed locations of water supply, sanitary sewer, and other utilities.

d. Grading information showing existing and proposed contours at intervals of not more than 2 feet if the general slope of the land is less than 10 %, and 5 foot intervals for all other areas, or a more precise interval as necessary to show the grading information, extending 100 feet surrounding the parcel, any proposed fill, and drainage facilities.

e. The proposed elevation ~~in relation to mean sea level~~ correlated to NAVD 88 vertical datum of the lowest floor of all residential and nonresidential structures whether new or substantially improved to be located in all special flood hazard areas other than Zone AO.

f. The proposed height of the lowest floor, in relation to the pre-developed highest adjacent grade and depth number specified in feet on the FIRM, of the lowest floor for all residential and non-residential structures whether new or substantially improved to be located in Zone AO.

g. The proposed elevation ~~in relation to mean sea level~~ based on an assumed local datum or correlated to NAVD 88 vertical datum of the lowest floor, of all residential and non-residential structures whether new or substantially improved to be located in Zone AO if an elevation certificate is being prepared to support a letter of map amendment (LOMA) or letter of map revision based on fill (LOMR-F) or if the administrator requests the information due to unique flooding in an area. All ~~elevations relative to mean sea level~~ correlated to NAVD 88 vertical datum must be determined by a professional engineer licensed in the state of Nevada.

h. The proposed elevation ~~in relation to mean sea level~~ correlated to NAVD 88 vertical datum, to which any new or substantially improved nonresidential structure will be flood-proofed.

i. When base flood elevation data is not available from any source for the parcel upon which the construction or other development is to be undertaken, and the parcel is located in Zone A, base flood elevation data for that parcel performed by a professional engineer licensed in the state of Nevada.

~~4~~ 2. A map produced by a professional engineer licensed in the state of Nevada that clearly shows the limits of the special flood hazard area as determined from the adopted FIRM, site topography, base flood elevation, and other best available information.

~~B. X-shaded flood zone.~~

~~When a parcel is partially within an X-shaded flood zone, any proposed construction, including without limitation, substantial improvements or other development on the parcel not within the X-shaded flood zone is exempt from the requirements of this subsection when the applicant provides either, proof the proposed construction meets the requirements of 20.50.120 for construction in the X-shaded flood zone; or a survey by a professional engineer licensed by the state of Nevada delineating the floodplain boundaries on the parcel and proof the proposed construction, substantial improvement or other development does not encroach into the X-shaded flood zone.~~

~~Whenever the proposed construction or substantial improvements, will be undertaken in the X-shaded flood zone the applicant must provide at minimum the following information, unless inapplicable:~~

~~1. Plans drawn to scale in duplicate showing:~~

~~a. Location of the X-shaded flood zone.~~

~~b. Location and dimension of the area in question and existing or proposed structures.~~

~~c. Proposed location of water supply, sanitary sewer, and other utilities.~~

~~d. Grading information showing existing and proposed contours at intervals of not more than 2 feet if the general slope of the land is less than 10 %, and 5 foot intervals for all other areas, extending 100 feet surrounding the parcel, any proposed fill, and drainage facilities.~~

~~e. The proposed elevation above the predeveloped highest adjacent grade of the lowest floor of all residential and nonresidential structures whether new or substantially improved.~~

~~f. The proposed elevation above the predeveloped highest adjacent grade to which any new or substantially improved nonresidential structure will be flood-proofed or flood resistant using county approved materials.~~

~~C.~~ 20.50.200 Development in and around Watercourses~~.~~

The administrator may not issue a floodplain development review permit for altering or relocating a watercourse unless, in addition to all of the other information required by this section:

1. FEMA has ~~issued~~ approved a CLOMR.

2. The applicant provides a description of the extent to which the watercourse will be altered or relocated as a result of the proposed development.

3. The applicant provides computations by a professional engineer licensed in the state of Nevada that demonstrate that the altered or relocated segment will provide equal or more capacity than the original watercourse.

4. The applicant provides a legally enforceable assurance that the conveyance capacity of the altered or relocated stream segment will be maintained.

5. For watercourses identified as blue line streams on the USGS topographic maps, a letter of determination for jurisdictional authority must be provided by the US Army Corps of Engineers.

~~D.~~ 20.50.210 Development in Floodways~~.~~

The administrator may not issue a floodplain development review permit for any encroachment in the adopted regulatory floodway, including without limitation, fill, new construction, substantial improvements, storage of equipment or supplies, and any other development unless:

1. The applicant has demonstrated through a hydrology and hydraulics study and a no-rise certification (see Section 20.50.090) that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge, and

2. FEMA has ~~issued~~ approved a CLOMR.

~~E.~~ 20.50.220 Development in Alluvial fan areas~~.~~

All floodplain development review permit applications will be reviewed to determine if the proposed development is located within an alluvial fan area and determine its relation to designated flood zones.

1. The review process will determine if the proposed site and improvements, and adjacent or other affected properties, will be reasonably safe from erosion, sediment deposition or flood hazards. Factors to be considered in making this determination include but are not limited to the following:

a. Type and quality of soils;

b. Evidence of ground water or surface water problems;

c. Depth and quality of any fill;

d. The overall slope of the site;

e. Location and character of conveyance facilities and structures both up and downstream; and

f. Impacts to conveyance capacities of existing drainages and storm water flow routes.

2. When a proposed development is located in an alluvial fan area, the following are the minimum requirements:

a. A site investigation must be made by persons qualified in geology and soils engineering;

b. The proposed grading, excavations, new construction, and substantial improvements must be adequately designed and protected against erosion and flood damages both on-site and off-site;

c. The proposed grading, excavations, new construction and substantial improvements must not aggravate the existing hazard by creating either on-site or off-site disturbances; and

d. Drainage, planting, watering, and maintenance must not endanger ground or slope stability.

~~F. Additional information may be required on the permit application forms. (Ord 1251, 2008)~~

3. Elevating a parcel of land or a structure by fill or other means will not serve as a basis for removing areas subject to alluvial fan flooding from an area of special flood hazards. Alluvial fan areas are recognized on the FIRM as AO zones with an associated velocity and in these zones a LOMR-F is not permitted.

~~20.50.110 Special requirements for land division in special flood hazard areas~~
~~Any land division proposal creating lots of less than 19 net acres under chapter 20.708 Subdivisions or section 20.712.050 Serial parcel maps for land that is within, or that has construction partially within, a special flood hazard area; an applicant must comply with the following requirements:~~

~~A. The applicant must submit the following information:~~

~~1. A hydrology and hydraulics study that demonstrates that the developed project will not have any adverse impact.~~

~~2. Tentative subdivision or serial parcel maps and grading plans that:~~

~~a. identify the special flood hazard area, x-shaded areas, and the base flood elevation;~~

~~b. provide the elevation of proposed structures or building pads.~~

~~B. If the hydrology and hydraulics study shows any adverse impact, injury to other property or expands the floodplain boundary of the effective FIRM utilizing the Corrected Effective Model or the Effective Model, as recognized by FEMA the applicant must comply with section 20.50.130. If a CLOMR and LOMR are required under that section, the final map may not be recorded or any work permitted under a site improvement permit until the CLOMR is approved by FEMA.~~

~~C. Land may not be divided for residential purposes that will result in the creation of a parcel that is less than 19 net acres, unless the applicant shows that:~~

~~1. The parcels may be lawfully created pursuant to section 20.664.095 or are Ranch Heritage parcel(s) or Agricultural 2-acre parcel(s) lawfully created pursuant to chapter 20.714; or~~

~~2. The portion of the land in the special flood hazard area will be contained on a single parcel; and~~

~~3. The land within the special flood hazard area is retained in a natural state including, without limitation, no solid fencing that impedes the flow of floodwaters or other improvements; and~~

~~4. The land within the special flood hazard area is held in common or single ownership with any overlying drainage easement; and~~

~~5. A property owner's association or similar entity is legally responsible for maintenance of the land in the special flood hazard area in its natural state.~~

~~D. Existing parcels less than 19 net acres in special flood areas may not be divided for residential purposes. (Ord 1251, 2008)~~

~~20.50.120~~ 20.50.230 Standards for construction

In all special flood hazard areas, the following standards apply:

A. Anchoring. All new construction, substantial improvements and manufactured homes, and portable storage containers must be adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

B. Construction materials and methods. All new construction and substantial improvements, including manufactures~~d~~d homes, must be constructed to meet FEMA requirements:

1. With materials, mechanical equipment, and utility equipment that satisfy flood-proofing requirements;

2. With design methods and practices that minimize flood damage;

3. To ensure electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities are designed or located so as to prevent water from entering or accumulating within the components during flooding;

4. Within flood zones AH or AO, with adequate drainage conveyance structures to convey flood waters around and away from proposed structures.

~~5. When fill is used for new construction, substantial improvements, driveways or streets in a special flood hazard zone, a Conditional Letter of Map Revision based on fill (CLOMR-F) must be filed with the county. Ranch Heritage parcel(s) or Agricultural 2-acre parcel(s) lawfully created pursuant to chapter 20.714 do not have to file a CLOMR-F if no more than one foot of fill above existing grade is used for the new construction, including driveways or streets serving the parcel(s).~~

C. Elevation requirements for lowest floor. Residential construction, including the placement of manufactured housing units, sunrooms and new or substantial improvements, must have the lowest floor, as follows:

1. In zone AO, elevated above the predeveloped highest adjacent grade to a height at least one foot above the depth number specified in feet on the FIRM. A professional surveyor or engineer licensed in the state of Nevada must complete the elevation certificate.

2. In zone A, elevated at least one foot above the base flood elevation as determined by a professional engineer licensed in the state of Nevada.

3. In zones AH, elevated at least one foot above the base flood elevation as specified on the FIRM and determined by a professional engineer licensed in the State of Nevada.

4. In zone AE, elevated at least one foot above the base flood elevation as specified on the FIRM or determined by a professional engineer licensed in the State of Nevada State.

5. In all the X-shaded flood zone, one of the following minimum criteria must be met:

a. The lowest floor must be elevated one foot above the pre-developed highest adjacent grade:

or

~~b. The structure must be flood-proofed or made flood resistance using county approved materials one foot above the pre-developed highest adjacent grade; or~~

~~c~~b. The applicant must provide a drainage plan by professional engineer licensed in the state of Nevada for diverting water around the proposed structure through the use of berms, swales, or other drainage features.

D. If a residential substantial improvement, entire structure must be floodproofed to one foot above the base flood elevation or depth if zone AO. Substantial improvements are defined in Section 20.50.100.

~~D~~E. Lowest floor certification requirements. For structures located within a special flood hazard area, the applicant must submit an elevation certificate that certifies the lowest floor meets this chapter's elevation requirements. The administrator may waive the elevation certificate requirement for the following:

1. Non-habitable agriculture structures (barn or shed) in Zone A if the following requirements are met:

a. The proposed structure has a minimum 24-inch stem-wall of flood-proof material (stone, brick, cement, etc.), is built with pier foundations, or the structure is entirely of metal or other flood-proofed material.

b. All mechanical or electrical equipment is located 24 inches above the pre-developed highest adjacent grade or one foot above the base flood elevation whichever is greater.

c. The structure has a minimum of 2 openings having a total net area of not less than 1 square inch of every square foot of enclosed area subject to flooding and the bottom of all such openings, is no higher than one foot above the lowest adjacent finished grade and installed below the base flood elevation.

2. Monument signs located within a special flood hazard area if the bottom of the monument sign is elevated one foot above the base flood elevation, is parallel to flow, does not block flow, and in constructed of flood proofed materials.

~~E~~F. Nonresidential flood-proofing requirements. New nonresidential construction and substantial improvement to existing nonresidential structures must either be elevated to conform with paragraph C, above, or together with attendant utility, mechanical and sanitary facilities as follows:

1. Be flood-proofed below the base flood elevation so that the structure, the utilities, mechanical equipment and sanitary facilities are watertight with walls substantially impermeable to the passage of water;

2. Have the structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and

3. Be certified by a professional engineer or architect licensed in the state of Nevada that the standards are satisfied. The certification must be provided to the administrator.

~~F~~G. Requirements for areas below the lowest floor. All new construction and substantial improvements to existing structures within a special flood hazard area 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, must be designed to automatically equalize hydrostatic and hydrodynamic flood forces on exterior walls by allowing for the entry and exit of flood waters. Designs

for meeting this requirement must either be certified by a professional engineer or architect licensed in the state of Nevada or meet or exceed the following minimum criteria:

1. Have a minimum of two openings on different sides having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding. Net area may be reduced by manufacturer or engineer certification if engineered flood openings are used. If a structure has more than one enclosed area, each area must have openings on different sides to allows floodwaters to directly enter and exit. Openings must be equipped with FEMA approved louvers or other designed openings that permit the automatic entry and exit of flood waters.

2. The bottom of all such openings must be no higher than one foot above the exterior lowest adjacent finished grade and be installed below the base flood elevation.

~~3. Openings may be equipped with louvers, valves, screens or other coverings or devices provided they permit the automatic entry and exit of flood waters. If an opening is to be covered by some type of cover (grill, grate, bars, or louvers), the net area of the opening must be used and the number of openings increased accordingly.~~

~~4~~3. Have an adequate drainage system that removes floodwaters from the interior of the crawlspace.

~~G~~H. Standards for utilities.

1. All public utilities and facilities must be located and constructed to minimize flood damage.

2. All new and replacement water supply systems must be designed to prevent infiltration and intermingling of flood waters.

3. All new and replacement sanitary sewage systems must be designed to prevent infiltration and intermingling of flood waters. Sanitary sewer and storm drainage systems for buildings that have openings below the base flood elevation must be provided with automatic back-flow valves or other automatic back-flow devices that are installed in each discharge line passing through a building's exterior wall.

4. On-site individual sewage disposal systems must be designed, constructed and located to avoid impairment to their functioning and to reduce potential contamination during flood events.

5. All heating, venting and air conditioning (HVAC) systems and other aboveground mechanical and electrical equipment must be located at least one foot above the base flood elevation and be located and constructed to minimize flood damage.

~~H~~I. Standards for critical structures. Critical structures, as defined in Appendix A of this title, are not permitted to be constructed within a special flood hazard area, unless:

1. All alternative locations in the X-unshaded flood zone have been considered and rejected.

2. All alternative locations in X-shaded flood zone have been considered and rejected.

If the administrator determines the only practical alternative location for the development of a new or substantially improved critical structure is in a special flood hazard area, the administrator must give public notice of the decision and reasons for the elimination of all alternative locations. Additionally if a critical structure must be located in a floodplain, then it will be designed to higher protection standards and have flood evacuation plans. The more common standards such as freeboard, elevation above the 500-year floodplain, and elevated ramps will be required. (NFIP)

~~I~~J. Special standards for manufactured homes.

1. All manufactured homes that are placed or substantially improved, within zones A, AH, AO and AE as shown on the FIRM must have the lowest floor elevated one foot above the base flood elevation, as determined by a professional engineer licensed in the state of Nevada on a permanent, full perimeter foundation and be securely anchored to a foundation system to resist flotation, collapse and lateral movement. Methods of anchoring may include, but are not to be limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.

2. All manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision within zones A, AH, AO and AE as shown on the community's FIRM are not subject to the provisions of subparagraph 1, above, provided that:

a. The lowest floor of the manufactured home is at least one-foot above the base flood elevation; or

b. The manufactured home chassis is supported by reinforced flood-proofed piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and is securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

~~J~~K. Recreational vehicles. All recreational vehicles placed on sites within zones A, AH, AO and AE must either:

1. Be on the site for fewer than 180 consecutive days;

2. Meet the permit requirements of this ordinance including the elevation and anchoring requirements for manufactured homes; or

3. 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 devised and has not permanently attached additions.

~~K~~L. Standards for below-grade crawl space construction. The following requirements must be met for below-grade crawl space construction:

1. The interior grade of a crawl space if below the base flood elevation, must not be more than two feet below the lowest adjacent exterior grade.

2. The height of the below-grade crawl space measured from the interior grade of the crawl space to the top of the crawl space foundation wall must not exceed four feet at any point. The height limitation is the maximum allowable unsupported wall height according to the engineering analyses and building code requirement for flood hazard areas.

3. There must be an adequate drainage system that removes floodwaters from the interior area of the crawl space. A professional engineer licensed in the state of Nevada must verify the drainage system.

4. The velocity of floodwaters at the site may not exceed five feet per second. A professional engineer licensed in the state of Nevada must verify the velocity of floodwaters.

~~L. Decks. Decks under 30 inches in height within a special flood hazard area, that are located below the base flood elevation, must be constructed with flood resistant or flood proof materials.~~

M. Breakaway walls. A breakaway wall must have a safe design loading resistance of not less than 10 and no more than 20 pounds per square foot. Use of breakaway wall must be certified by a professional engineer or architect licensed in the state of Nevada and must meet the following conditions:

1. Breakaway wall collapse must result from a water load less than that which would occur during the base flood; and

2. The elevated portion of the building must not incur any structural damage due to the effects of wind and water loads acting simultaneously in the event of the base flood.

~~N. Base flood elevation for Lake Tahoe. A professional engineer licensed in the state of Nevada may use 6,229.1 Lake Tahoe Datum as a base flood elevation for properties located adjacent or near Lake Tahoe where Lake Tahoe is the only flooding source.~~

O. Landscaping and Landscaping berms. The planting of landscaping in the special flood hazard areas shall consider the least resistance to stormwater flow. The construction of landscaping berms within the special flood hazard area shall be designed in consideration of the direction of stormwater flow, and will not be allowed to divert direction of flow. As part of the building permit submittal for any new construction where landscape or landscape berms are proposed, grading plans must show no adverse impact to the floodplain.

~~O~~P. Multiple flood zones. Proposed construction, including without limitation, substantial improvement, and other development, of a parcel within multiple flood zones must be constructed to the standards of the most restrictive flood zone. (Ord. 1251, 2008; Ord. 984, 2001; Ord. 801, 1997; Ord. 763, 1996; Ord. 567, 1992; Ord. 472, 1987; Ord. 331, 1980)

~~20.50.190~~ 20.50.240 Variances

A. Nature of variances. 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.

B. It is the duty of the planning commission and board 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 flood elevation or from other requirements in the flood ordinance are quite rare. The long-term goal of preventing and reducing flood loss and damage can only be met if variances are strictly limited.

C. The hearing board is the board of county commissioners. In evaluating requests for variances, the board must consider all technical evaluations, all relevant factors, standards specified in other chapters of this title:

1. The danger of materials being swept onto other lands and injuring others;

2. Increased danger to life and property due to flooding or erosion damage;

3. Increased susceptibility of the proposed facility and its contents of flood damage and the effect of such damage on the existing individual owner and future owners of the property;

4. Reduction of services by the proposed facility to the community;

5. Incompatible uses between existing development and anticipated development;

6. An inconsistency with the master plan and floodplain management program for the county and specific community;

7. Inadequate emergency access to the property in time of flood;

8. An increase in expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site; and

9. Increased cost to the county and other agencies providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water system, and streets and bridges.

D. General provisions.

1. Variances may be issued for new construction, substantial improvements, and other proposed new development to be erected on a lot contiguous to or surrounded by lots with existing structures constructed below the base flood level, provided that the procedures of this chapter have been fully considered and complied with.

2. Variances may be issued for the repair or rehabilitation of historic structures, upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as an historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

3. Variances may not be issued within any mapped regulatory floodway if any increase in flood levels during the base flood discharge would result.

4. Variances may only be approved upon a determination that the variance is the minimum necessary considering the flood hazard, to afford relief. Minimum necessary means to afford relief with a minimum of deviation from the requirements of this ordinance. For example, in the case of variances to an elevation requirement, this means the board need not grant permission for the applicant to build at grade, or even to the proposed elevation, but only to that elevation which the board believes will provide relief and preserve the integrity of the property.

5. In granting a variance, the board may attach any conditions it deems necessary to further the purposes of this chapter.

E. Required findings. In approving a request for a variance, the board must make findings of fact regarding the following:

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;

3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, creating a nuisance, causing fraud or victimization of the public, or conflict with existing local laws or ordinances; and

4. That the applicant has signed a disclosure statement indicating that he or she understands that:

a. The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance; and

b. Such construction below the base flood level increases risks to life and property; and

c. A copy the disclosure will be filed and recorded by the county recorder in a manner so that it appears as an exception on the title of the affected parcel of land. (Ord. 1251, 2008; Ord. 763, 1996)

~~20.50.200~~ 20.50.250 Violations and penalties

A. No structure may be constructed, located, extended, converted, or altered, and no land may be altered without full compliance with the terms of this chapter and other applicable regulations. A violation of this ordinance is a criminal misdemeanor.

B. All violations of this ordinance will be addressed pursuant to the provisions of this chapter, including stop work orders, section 20.800.101 or other applicable law. In addition, if a property owner does not remedy a violation, the administrator may submit a report to the board of commissioners and request that the board:

1. Take any action necessary to effect the abatement of the violation;

2. Issue a variance to this ordinance in accordance with the provisions of section ~~20.50.150~~20.50.110; or

3. Submit to the administrator of the Federal Insurance Administration a declaration for denial of insurance, stating that the property owner is in violation of a cited statute or local law, regulation or ordinance, pursuant to section 1316 of the National Flood Insurance Act of 1968 and as amended. (Ord. 1251, 2008)