

Michael J. Sawyer
mjs@mountainlawfirm.com

Of Counsel
Anna S. Itenberg
Greg S. Russi
Hollie L. Wieland

www.mountainlawfirm.com

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To: Mayor Breslin and New Castle Town Council

From: Karp Neu Hanlon

Re: Adoption of Updated Floodplain Ordinance

New Castle currently has a section in its zoning code entitled floodplain standards (Section 17-90-010 *et seq.*). Adopting code provisions related to regulation of land uses within floodplains is a pre-requisite for landowners to participate in the National Flood Insurance Program (run by the Federal Emergency Management Agency (FEMA)). Colorado has chosen to adopt a model floodplain ordinance for use at the local level. This model ordinance is updated from time to time. Colorado updated its ordinance in 2011 and the state has been working with local jurisdictions to adopt the updated model code. New Castle has been presented with the Colorado updated model ordinance for adoption into the Town Code. Failure to enact floodplain standards that are compliant with state and federal guidelines can lead to FEMA refusing to issue floodplain insurance policies within the Town.

Regulation of floodplains is an important consideration for local governments. As demonstrated by the recent flash floods on the Front Range, substantial damage to personal property and loss of life can occur if development occurs improperly within the floodplain. The Colorado model floodplain ordinance seeks to reduce those risks through land use regulation. The model floodplain ordinance forbids or significantly restricts development activities within designated floodplains. Local governments must also be aware of hardships that floodplain restrictions can enact on local residents. The proposed ordinance creates strict restrictions on erecting structures and even modifying the natural condition of the land within floodplain areas. For citizens who own land (and whose houses may historically have been located within the floodplain areas) compliance with the ordinance can restrict the ability to enlarge and rebuild existing structures. Gathering technical information required under the model ordinance to obtain a variance can cost substantial money to generate.

The regulatory framework of the model ordinance requires that a landowner obtain “a permit before construction or development begins within any Special Flood Hazard Area (SFHA).” The SFHA was designated by FEMA for the Colorado River and portions of Elk Creek in 1975 (Exhibit A). Obviously, the Town has grown substantially since 1975. In response, the Town commissioned a flood insurance study from SGM in 2003. This study contained more detailed floodplain mapping that included base flood elevations along both of the Town’s two main waterways. The 2003 maps were never formally adopted by FEMA, but they do facilitate the Town’s administration of its floodplain standards.

The floodplain standards are administered by the Town Engineer, Jeff Simonson. He has authority under the ordinance to review applications, make floodplain determinations and to issue permits. The model ordinance does contain a variance procedure (Article IV, Section D) that is presented to an appeal board. Under the existing Town Code the appeal board is the Board of Adjustment.

The updated model ordinance operates much the same as the Town's existing code. However, the updated model ordinance contains enhanced provisions related to standards for construction of specific types of improvements within the SFHA. The updated model ordinance also contains new standards for "critical facilities" This reflects an emphasis on ensuring that critical infrastructure can quickly recover from a flood event to provide service to the public.

There is one "optional" provision in the updated model ordinance dealing with penalties. This provision is not necessary to maintain NFIP certification and whether it is included represents a policy decision of the Town Council.

Based upon work with other communities on this updated model ordinance, the State is willing to consider other modifications subject to their review. Deviations from the model ordinance must be approved by the State in order not to jeopardize the Town's participation in the NFIP. If the Council identifies items in the model ordinance that it believes should be changed, we will communicate with the appropriate state agency to determine whether such modifications are acceptable.

**TOWN OF NEW CASTLE, COLORADO
ORDINANCE NO. TC-2014-1**

AN ORDINANCE OF THE NEW CASTLE TOWN COUNCIL ADOPTING THE
2011 MODEL FLOODPLAIN PROTECTION ORDINANCE AND AMENDING
CHAPTER 17.90 OF THE TOWN CODE.

WHEREAS, the Town participates in the National Flood Insurance Program (NFIP); and

WHEREAS, participation in the NFIP requires that the Town, from time to time, adopt regulatory provisions designed at mitigating flood hazard risks; and

WHEREAS, in 2003 the Town adopted a model ordinance pertaining to flood hazard risks which was codified as 17.90.010 *et seq* of the Town Code; and

WHEREAS, an updated model ordinance has been developed by the Colorado Water Conservation Board in accordance with guidelines promulgated by the NFIP; and

WHEREAS, modifying the Town code to be in conformance with the updated model ordinance is a requirement to participate in the NFIP; and

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF NEW CASTLE, COLORADO:

1. Recitals. The foregoing recitals are incorporated as findings by the Town Council.
2. Amendments. The Town Council hereby makes the following amendments to Chapter 17.90 of the New Castle Municipal Code:

17.90.010 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 to:

- 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~~ floodplains;
- F. ~~To~~ help maintain a stable tax base by providing for the ~~second~~ sound use and development of flood-prone areas ~~of special flood hazard so in such a manner~~ as to minimize future ~~flood-prone~~ blight areas; and
- G. ~~To~~ insure that potential buyers are notified that property is in an area of special flood hazard;
- H. ~~To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions; and~~
- I. ~~—To provide citizens the opportunity to purchase flood insurance through the National Flood Insurance Program as administered by the Town of New Castle, which insurance will be at the appropriate level of need commensurate with the level of flood hazard identified on the adopted flood plain mapping accompanying the Flood Insurance Study for the Town.~~

17.90.020 Methods of Reducing Flood Losses.

In order to accomplish its purposes, this Chapter ~~includes~~ uses the following methods ~~and provisions for:~~

- A. ~~Restricting~~ Restrict or ~~prohibiting~~ prohibit uses ~~which~~ that are dangerous to health, safety and ~~or~~ property ~~due to water or erosion hazards in times of flood,~~ or ~~which result in damaging~~ cause excessive increases in erosion or in flood heights or velocities;
- B. ~~Requiring~~ Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- C. ~~Controlling~~ Control the alteration of natural floodplains, stream channels, and natural protective barriers, which ~~help accommodate or channel floodwaters~~ are involved in the accommodation of flood waters;
- D. ~~Controlling~~ Control filling, grading, dredging and other development which may increase flood damage; ~~and~~

E. Preventing Prevent or regulating regulate the construction of flood barriers which will unnaturally divert ~~floodwaters~~ flood waters or which may increase flood hazards ~~in~~ to other areas lands.

17.90.030 Definitions

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

“100-Year Flood” means a flood having a recurrence interval that has a one-percent chance of being equaled or exceeded during any given year (1-percent-annual-chance flood). The terms "one-hundred-year flood" and "one percent chance flood" are synonymous with the term "100-year flood." The term does not imply that the flood will necessarily happen once every one hundred years.

“100-Year Floodplain” means the area of land susceptible to being inundated as a result of the occurrence of a one-hundred-year flood.

“500-Year Flood” means a flood having a recurrence interval that has a 0.2-percent chance of being equaled or exceeded during any given year (0.2-percent-chance-annual-flood). The term does not imply that the flood will necessarily happen once every five hundred years.

“500-Year Floodplain” means the area of land susceptible to being inundated as a result of the occurrence of a five-hundred-year flood.

~~**"Appeal"** means a request for a review of the Floodplain Administrator's interpretation of any provision of this Chapter or a request for a variance.~~

“Addition” means any activity that expands the enclosed footprint or increases the square footage of an existing structure.

“Alluvial Fan Flooding” means a fan-shaped sediment deposit formed by a stream that flows from a steep mountain valley or gorge onto a plain or the junction of a tributary stream with the main stream. Alluvial fans contain active stream channels and boulder bars, and recently abandoned channels. Alluvial fans are predominantly formed by alluvial deposits and are modified by infrequent sheet flood, channel avulsions and other stream processes.

“Area of Shallow Flooding” means a designated Zone AO or AH on a community's Flood Insurance Rate Map (FIRM) with a one percent chance or greater annual chance of flooding to an average depth of one to three 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 percent or greater chance of flooding in any given year as indicated on the Flood Insurance Rate Map.~~

~~“Base flood” means the flood having a one percent chance of being equaled or exceeded in any given year.~~

“Base Flood Elevation (BFE)” means the elevation shown on a FEMA Flood Insurance Rate Map for Zones AE, AH, A1-A30, AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO, V1-V30, and VE that indicates the water surface elevation resulting from a flood that has a one percent chance of equaling or exceeding that level in any given year.

“Basement” means any area of a building having its floor sub-grade (below ground level) on all sides.

“Channel” means the physical confine of stream or waterway consisting of a bed and stream banks, existing in a variety of geometries.

“Channelization” means the artificial creation, enlargement or realignment of a stream channel.

“Code of Federal Regulations (CFR)” means the codification of the general and permanent Rules published in the Federal Register by the executive departments and agencies of the Federal Government. It is divided into 50 titles that represent broad areas subject to Federal regulation.

“Community” means any political subdivision in the state of Colorado that has authority to adopt and enforce floodplain management regulations through zoning, including, but not limited to, cities, towns, unincorporated areas in the counties, Indian tribes and drainage and flood control districts.

“Conditional Letter of Map Revision (CLOMR)” means FEMA's comment on a proposed project, which does not revise an effective floodplain map, that would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodplain.

“Critical Facility” means a structure or related infrastructure, but not the land on which it is situated, as specified in 17-90-220 of this Chapter, that if flooded may result in significant hazards to public health and safety or interrupt essential services and operations for the community at any time before, during and after a flood.

~~“Critical feature” means an integral and readily identifiable part of a flood protection system, without which the flood protection provided by the entire system would be compromised.~~

~~“Development” means any manmade change to improved or unimproved real estate, including but not limited to building or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations located within the area of special flood hazard or storage of equipment or materials.~~

“DFIRM Database” means the database (usually spreadsheets containing data and analyses that accompany DFIRMs). The FEMA Mapping Specifications and Guidelines outline requirements for the development and maintenance of DFIRM databases.

“Digital Flood Insurance Rate Map (DFIRM)” means the FEMA digital floodplain map. These digital maps serve as “regulatory floodplain maps” for insurance and floodplain management purposes.

“Elevated Building” means a non-basement building (i) built, in the case of a building in Zones A1-30, AE, A, A99, AO, AH, B, C, X, and D, to have the top of the elevated floor above the ground level by means of pilings, columns (posts and piers), or shear walls parallel to the flow of the water and (ii) adequately anchored so as not to impair the structural integrity of the building during a flood of up to the magnitude of the base flood. In the case of Zones A1-30, AE, A, A99, AO, AH, B, C, X, and D, "elevated building" also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of flood waters.

“Existing Manufactured Home Park Or Subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured 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 before the effective date of the floodplain management regulations adopted by a community.

“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 the pouring of concrete pads).

“Federal Register” means the official daily publication for Rules, proposed Rules, and notices of Federal agencies and organizations, as well as executive orders and other presidential documents.

“FEMA” means the Federal Emergency Management Agency, the agency responsible for administering the National Flood Insurance Program.

"Flood or flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from ~~the unusual and rapid accumulation or runoff of surface waters from any source.~~

1. The overflow of water from channels and reservoir spillways;
2. The unusual and rapid accumulation or runoff of surface waters from any source; or
3. Mudslides or mudflows that occur from excess surface water that is combined with mud or other debris that is sufficiently fluid so as to flow over the surface of normally dry land areas (such as earth carried by a current of water and deposited along the path of the current).

“Flood Fringe” means ~~that area of the floodplain shown on the flood maps which lies outside of the Floodway, in which the depth and velocity of the waters of the 100 Year Flood do not present as serious a threat to life and property as do the depth and velocity of the 100 Year Floodwaters in the Floodway. It is that area of the 100 Year Floodplain in which the use of fill and Flood-Proofing techniques may be allowed for development, without raising the water surface elevation of the 100 Year Flood by more than one (1) foot.~~

"Flood Insurance Rate Map (FIRM)" means the official map of New Castle, on which the Federal Emergency Management Agency has delineated both the ~~areas of special flood hazards~~ the Special Flood Hazard Areas and the risk premium zones applicable to the community.

"Flood Insurance Study" means the official report provided by the Federal Emergency Management Agency, ~~that includes~~ The report contains the Flood Insurance Rate Map flood profiles, the Flood Boundary Floodway Map, and the water surface elevation of the base flood.

“Floodplain or Flood-Prone Area” means any land area susceptible to being inundated as the result of a flood, including the area of land over which floodwater would flow from the spillway of a reservoir.

“Floodplain Administrator” means the New Castle official designated by title to administer and enforce the floodplain management regulations.

“Floodplain Development Permit” means the permit required before construction or development begins within any Special Flood Hazard Area (SFHA). If FEMA has not defined the SFHA within a community, the community shall require permits for all proposed construction or other development in the community including the placement of manufactured homes, so that it may determine whether such construction or other development is proposed within flood-prone areas. Permits are required to ensure that proposed development projects meet the requirements of the NFIP and this floodplain management Chapter.

“Floodplain Management” means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and floodplain management regulations.

“Floodplain Management Regulations” means the zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance and erosion control ordinance) and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

“Flood Prone Areas” means those areas of the Town for which the full extent of the 100 Year Floodplain has been delineated using approximate estimating techniques. Such flood prone areas are shown to be affected by the 100 Year Flood, but without the information relating to the exact elevation, in relation to mean sea level, of the surface of the 100 Year Floodwaters.

“Flood Control Structure” means a physical structure designed and built expressly or partially for the purpose of reducing, redirecting, or guiding flood flows along a particular waterway. These specialized flood modifying works are those constructed in conformance with sound engineering standards.

“Flood-Proofing” means a any combination of provisions, techniques, methods of construction and design, and changes or adjustments to lands, properties and structures subject to flooding, designed primarily for the reduction or elimination of flood damage to lands, properties, structures and contents of buildings in a flood hazard area structural and/or non-structural additions, changes,

or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

"Floodway (Regulatory Floodway) " means the channel of a river or other watercourse and ~~the~~ adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevations more than ~~one foot~~ a designated height. The Colorado statewide standard for the designated height to be used for all newly studied reaches shall be one-half foot (six inches). Letters of Map Revision to existing floodway delineations may continue to use the floodway criteria in place at the time of the existing floodway delineation.

"Freeboard" means the vertical distance in feet above a predicted water surface elevation intended to provide a margin of safety to compensate for unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood such as debris blockage of bridge openings and the increased runoff due to urbanization of the watershed.

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

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

"Historic Structure " means any structure that is:

1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or
4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

- a. By an approved state program as determined by the Secretary of the Interior or;
- b. Directly by the Secretary of the Interior in states without approved programs.

“Letter of Map Provision (LOMR)” means FEMA's official revision of an effective Flood Insurance Rate Map (FIRM), or Flood Boundary and Floodway Map (FBFM), or both. LOMRs are generally based on the implementation of physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective Base Flood Elevations (BFEs), or the Special Flood Hazard Area (SFHA).

“Letter of Map Revision Based on Fill (LOMR-F)” means FEMA’s modification of the Special Flood Hazard Area (SFHA) shown on the Flood Insurance Rate Map (FIRM) based on the placement of fill outside the existing regulatory floodway.

“Levee” means a manmade structure, ~~usually an earthen embankment,~~ embankment, usually earthen, 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. For a levee structure to be reflected on the FEMA FIRMs as providing flood protection, the levee structure must meet the requirements set forth in 44 CFR 65.10.

“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 floor” means the lowest floor of the lowest enclosed area (including basement). Any floor used for living purposes which includes working, storage, sleeping, cooking and eating, or recreation or any combination thereof. This includes any floor that could be converted to such a use such as a basement or crawl space. The lowest floor is a determinate for the flood insurance premium for a building, home or business. An unfinished or flood-resistant enclosure, useable 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 of~~ Section 60.3 of the National Flood insurance Program regulations.

“Manufactured Home” means a structure, transportable in one (1) or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. ~~For flood plain management purposes, the term “manufactured home” also includes park trailers, travel trailers and other similar vehicles placed on a site for~~

~~greater than one hundred eighty (180) consecutive days. For insurance purposes, the term "manufactured home" does not include park trailers, travel trailers and other similar vehicles. This definition is for the purpose of this Chapter only. The term "manufactured home" does not include a "recreational vehicle".~~

“Manufactured Home Park or Subdivision” means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

"Mean sea level" means, for 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.

“Material Safety Data Sheet (MSDS)” means a form with data regarding the properties of a particular substance. An important component of product stewardship and workplace safety, it is intended to provide workers and emergency personnel with procedures for handling or working with that substance in a safe manner, and includes information such as physical data (melting point, boiling point, flash point, etc.), toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill-handling procedures.

“National Flood Insurance Program (NFIP)” means FEMA’s program of flood insurance coverage and floodplain management administered in conjunction with the Robert T. Stafford Relief and Emergency Assistance Act. The NFIP has applicable Federal regulations promulgated in Title 44 of the Code of Federal Regulations. The U.S. Congress established the NFIP in 1968 with the passage of the National Flood Insurance Act of 1968.

"New construction" means structures for which the "start of construction" commenced on or after the effective date of the ordinance codified in this Chapter.

“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.

“No-Rise Certification” means a record of the results of an engineering analysis conducted to determine whether a project will increase flood heights in a floodway. A No-Rise Certification must be supported by technical data and signed by a registered Colorado Professional Engineer. The supporting technical data should be based on the standard step-backwater computer model

used to develop the 100-year floodway shown on the Flood Insurance Rate Map (FIRM) or Flood Boundary and Floodway Map (FBFM).

~~“**One Hundred (100) Year Flood**” means a type of flood, including the water surface elevation and territorial occupation thereof, which can be expected to occur at any time in a given year based upon recorded historical precipitation and other valid data, but with an average statistical one percent (1%) chance of being equaled or exceeded during any one (1) year. This term is interchangeable with a one percent (1%) or intermediate regional flood, or base flood.~~

~~“**One Hundred (100) Year Floodplain**” means an area in and adjacent to a stream, which is subject to flooding as a result of the occurrence of an intermediate regional flood (100 year flood), and which area thus is so adverse to past, current or foreseeable construction or land use without proper Flood Proofing or fill measures as to constitute a significant hazard to public health and safety or to property.~~

“**Physical Map Revision (PMR)**” means FEMA’s action whereby one or more map panels are physically revised and republished. A PMR is used to change flood risk zones, floodplain and/or floodway delineations, flood elevations, and/or planimetric features.

~~“**Program deficiency**” means a defect in a community's floodplain management regulations or administrative procedures that impairs effective implementation of those floodplain management regulations or of the NFIP standards in Sections 60.3, 60.4, 60.5, or 60.6.~~

“**Recreational Vehicle**” means a vehicle which is:

1. Built on a single chassis;
2. 400 square feet or less when measured at the largest horizontal projections;
3. Designed to be self-propelled or permanently towable by a light duty truck; and
4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

~~“**Remedy a violation**” means to bring the structure or development into compliance with state or local flood plain management regulations or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of this~~

~~Chapter or otherwise deterring future similar violations, or reducing federal financial exposure with regard to the structure or other development.~~

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

"Special Flood Hazard Area" means the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year, i.e., the 100-year floodplain.

~~"Start of construction" includes substantial improvement, and means the date the building permit was issued, including substantial improvements, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement was within one hundred eighty 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 slab 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 part of a main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.~~

~~"Structure" means a walled and roofed building or mobile home, including a gas or liquid storage tank, which is principally above ground, as well as a manufactured home.~~

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

~~"Substantial Improvement" means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure before the "start of construction" of the improvement. The value of the structure shall be determined by the local jurisdiction having land use authority in the area of interest. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:~~

1. Any project for improvement of a structure to correct existing violations of 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 alteration of an "historic structure:" provided that the alteration will not preclude the structure's continued designation as a "historic structure."

“Threshold Planning Quantity” means a quantity designated for each chemical on the list of extremely hazardous substances that triggers notification by facilities to the State that such facilities are subject to emergency planning requirements.

“Variance” means a grant of relief from the requirements of this Chapter when specific enforcement would result in unnecessary hardship. ~~which permits construction in a manner that would otherwise be prohibited by this Chapter.~~ A variance, therefore, permits construction or development in a manner otherwise prohibited by this Chapter. (For full requirements see Section 60.6 of the National Flood Insurance Program regulations).

“Violation” means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Section 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in violation until such time as that documentation is provided.

“Water Surface Elevation” means the height, in relation to the North American Vertical Datum (NAVD) of 1988 (or other datum, where specified), of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

17.90.040 Lands to Which This Chapter Applies

This Chapter shall apply to all ~~areas of special flood hazards~~ Special Flood Hazard Areas and areas removed from the floodplain by the issuance of a FEMA Letter of Map Revision Based on Fill (LOMR-F) within the jurisdiction of the Town New Castle, Colorado.

17.90.050 Basis for Establishing The Areas of Special Flood Hazard

~~The areas of special flood hazards~~ The Special Flood Hazard Areas identified by the Federal Emergency Management Agency in a scientific and engineering report entitled, "The Flood Insurance Study for New Castle, Colorado," dated July 25, 1975, with accompanying ~~insurance~~ Flood Insurance Rate Maps and/or Flood Boundary-Floodway Maps (FIRM), as and/or FBFM and any revisions thereto are hereby adopted by reference and declared to be a part of this Chapter. These Special Flood Hazard Areas identified by the FIS and attendant mapping are the minimum area of applicability of this Chapter and may be supplemented by studies designated and approved by the Town Council. Copies The Floodplain Administrator shall keep a copy of the Flood Insurance Study (FIS), DFIRMs, FIRMs and/or FBFMs on file and shall be made available for public inspection by the public at the New Castle Town Hall, 450 West Main Street, New Castle, Colorado.

~~17.90.060 Determination of Floodplains in Areas Not Previously Mapped~~

~~When an application for a development indicates or suggests that an area of the site may be subject to the 100 Year Floodplain, but for which area no studies or maps have been previously prepared, it shall be the responsibility of the applicant to provide floodplain studies, including appropriate maps, conducted and certified by a registered professional engineer licensed in the State of Colorado experienced in floodplain hydrology and hydraulics, which studies shall, at a minimum, determine the depth and elevation of the 100 Year Flood for the entire area of the site and for two hundred (200) yards upstream and downstream from the site, with all appropriate cross sections. Map scales shall be determined by Town zoning and subdivision requirements.~~

~~17.90.070 Delineation of Districts within Floodplain~~

A. — ~~District Types.~~ The floodplain of the Town may, where deemed to be in the public interest by the Town, and to promote wise use of the floodplain, be divided by the Town into two (2) sub-areas: (1) Flood Fringe; (2) Floodway. ~~In case of such division, such sub areas shall be as delineated and described in the studies and maps incorporated herein. Where such definition of any area of the floodplain into sub areas is not so made, the provisions of this Chapter applicable to Floodways shall be applied to the entire area of the floodplain not so divided.~~

B. — ~~Applications to Divide Floodplain into Districts.~~ Applications for Floodplain Development Permits, as required hereunder, may include a request to divide the floodplain use as to the land included in the application, so that the floodplain land included in the application will be designated as lying in whole or in part in Floodway or Flood Fringe. The applicant seeking such division shall include in the application, at the applicant's expense, a report of a registered professional engineer licensed in the State of Colorado competent in the field of floodplain

~~hydrology and hydraulics, including accurate maps, which report and maps shall show, in the opinion of the engineer, which portions of the land included in the application lie in whole or in part in the Floodway and Flood Fringe as defined herein. The report shall further state that division of the floodplain, in the manner shown in the report, complies with all the standards and requirements of this Regulation. Applications to divide the floodplain may be included in an application for the permit for use of the land included in the application, or may be submitted apart from any application for a permit for a use. If the application is submitted apart from any application for a permit for a use, then the granting of the application to divide the floodplain into sub-areas shall not be construed to be the granting of a permit to make a use of the land included, and an application for a Floodplain Development Permit shall be required as provided herein before any use of the land can be made for which a Floodplain Development Permit is required. In any case, such application for division shall be approved or denied using the guidelines set forth below.~~

~~C. — Guidelines for Determining Appropriateness of Division. In determining whether to divide the floodplain into Floodway and Flood Fringe sub-areas, the Town shall determine whether such division is in the public interest and promotes wise use of the floodplain. The following factors, by way of example, and not by way of limitation, shall be considered in making such determinations:~~

- ~~1. — Whether the Flood Fringe area, as depicted by the available studies and maps, is so restrictive due to the amount of total area or topography involved that the development of the site would require a variance from other applicable Town Zoning Regulations. In cases where a variance would be necessary, the Town shall not approve dividing of the 100 Year Floodplain.~~
- ~~2. — Whether the 100 Year Floodplain in question could serve as an integral part of the land use planning for a subdivision or planned unit development application for the purposes of providing common open space or recreational land. In such case the Town shall strive to keep the 100 Year Floodplain free of significant construction or substantial improvement.~~

17.90.060 Establishment of Floodplain Development Permit

A Floodplain Development Permit shall be required to ensure conformance with the provisions of this Chapter.

~~17.90.080~~ 17.90.070 Compliance

No structure or land shall hereafter be ~~constructed, located, extended, converted, or altered,~~ or have its use changed within the Special Flood Hazard Area without full compliance with the terms of this Chapter and other applicable regulations. Nothing herein shall prevent the Town Council from taking such lawful action as is necessary to prevent or remedy any violation. These regulations meet the minimum requirements as set forth by the Colorado Water Conservation Board and the National Flood Insurance Program.

~~17.90.090~~ 17.90.080 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 another ordinance, easement, covenant ~~or~~, nor deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

~~17.90.100~~ 17.90.090 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~~ State statutes.

~~17.90.110~~ 17.90.100 Warning and Disclaimer of Liability

~~This Chapter is enacted~~ The degree of flood protection required by this Chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. ~~The degree of flood protection, the flood hazard areas, and the flood insurance studies upon which this Chapter is based have been established by the federal government, and the Town assumes no liability for the accuracy of completion thereof. Larger floods can and will occur on occasion, and flood heights may be increased by natural or manmade causes. This Chapter does not imply that land outside the Special Flood Hazard Area or uses permitted within such areas will be free from flooding or flood damages. Neither this Chapter, nor any act or administrative decision taken hereunder, shall subject the Town or any officer or employee thereof, or the Federal Emergency Management Agency (FEMA) to any liability for any flood damage that may result from reliance thereon.~~ This Chapter shall not create liability on the part of New Castle or any

official or employee thereof for any flood damages that result from reliance on this Chapter or any administrative decision lawfully made thereunder.

17.90.120 Establishment of Floodplain Development Permit

~~A Floodplain Development Permit shall be obtained before construction or development begins within any areas of special flood hazards established in 17-90-050. Application for a Floodplain Development Permit shall be made by forms furnished by the Floodplain Administrator, and may include, but not be limited to, 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. Specifically, the following information is required:~~

~~A. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures;~~

~~B. Elevation in relation to mean sea level to which any structure has been Flood Proofed;~~

~~C. Certification by a registered professional engineer licensed in the State of Colorado that the Flood Proofing methods for any non-residential structure meet the Flood Proofing criteria in §17-90-220; and~~

~~D. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.~~

17.90.110 Designation of the Floodplain Administrator

The Town Engineer is hereby appointed as Floodplain Administrator to administer, implement and enforce the provisions of this Chapter and other appropriate sections of 44 CFR (National Flood Insurance Program Regulations) pertaining to floodplain management.

17.90.130 17.90.120 Duties and responsibilities of the floodplain administrator.

~~A Floodplain Administrator shall be appointed to administer and implement this Chapter by granting or denying Floodplain Development Permit applications. Unless a different person is appointed by the Town Council, the Town Engineer shall serve as the Floodplain Administrator.~~

The Floodplain Administrator's duties Duties and responsibilities of the Floodplain Administrator shall include, but not be limited to, the following:

A. Permit Review.

1. ~~Review all Floodplain Development Permits to determine that the permit requirements of this Chapter have been satisfied;~~
2. ~~Review all Floodplain 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 Floodplain Development Permits to determine if the proposed development is located in the Floodway. If located in the Floodway, assure that the encroachment provisions of §13-05-320 are met.~~

B. Use of Other Base Flood Data. ~~When base flood elevation data has not been provided in accordance with 17.90.050, the Floodplain Administrator shall obtain, review, and reasonably utilize any base flood elevation and Floodway data available from federal, state or other sources, in order to administer this Chapter.~~

C. Information to be Obtained and Maintained.

1. ~~Obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures and whether or not the structure contains a basement.~~
2. ~~For all new or substantially improved Flood-Proofed structures:~~
 - a. ~~Verify and record the actual elevation (in relation to mean sea level), and~~
 - b. ~~Maintain the Flood Proofing certifications required in 17.90.120(C).~~
3. ~~Maintain for public inspection all records pertaining to the provisions of this Chapter.~~

D. Alteration of Watereourses.

- ~~1. Notify Garfield County, any adjacent communities, and the Colorado Water Conservation Board prior to any alteration or relocation of the watercourse, if such relocation requires a building permit, and submit evidence of such notification to the Federal Emergency Management Agency.~~
- ~~2. Require that maintenance is provided within the altered or relocated portion of said 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 17.90.140.~~

~~F. Reimbursement of Costs. The applicant for a Floodplain Development Permit shall be required to reimburse the Town for all costs incurred as a result of the review of the application, including but not limited to fees charged by the Floodplain Administrator.~~

A. Maintain and hold open for public inspection all records pertaining to the provisions of this Chapter, including the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures and any floodproofing certificate required by 17.90.130.

B. Review, approve, or deny all applications for Floodplain Development Permits required by adoption of this Chapter.

C. Review Floodplain Development Permit applications to determine whether a proposed building site, including the placement of manufactured homes, will be reasonably safe from flooding.

D. Review permits for proposed development to assure that all necessary permits have been obtained from those Federal, State or local governmental agencies (including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334) from which prior approval is required.

E. Inspect all development at appropriate times during the period of construction to ensure compliance with all provisions of this Chapter, including proper elevation of the structure.

F. Where interpretation is needed as to the exact location of the boundaries of the Special Flood Hazard Area (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the Floodplain Administrator shall make the necessary interpretation.

G. When Base Flood Elevation data has not been provided in accordance with 17.90.15 of this Chapter, the Floodplain Administrator shall obtain, review and reasonably utilize any Base Flood Elevation data and Floodway data available from a Federal, State, or other source, in order to administer the provisions for flood hazard protection.

H. For waterways with Base Flood Elevations for which a regulatory Floodway has not been designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's FIRM, 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-half foot at any point within the community.

I. Under the provisions of 44 CFR Chapter 1, Section 65.12, of the National Flood Insurance Program regulations, a community may approve certain development in Zones A1-30, AE, AH, on the community's FIRM which increases the water surface elevation of the base flood by more than one-half foot, provided that the community first applies for a conditional FIRM revision through FEMA (Conditional Letter of Map Revision), fulfills the requirements for such revisions as established under the provisions of Section 65.12 and receives FEMA approval.

J. Notify, in riverine situations, adjacent communities and the State Coordinating Agency, which is the Colorado Water Conservation Board, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to FEMA.

K. Ensure that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained.

17.90.130 Permit Procedures

Application for a Floodplain Development Permit shall be presented to the Floodplain Administrator on forms furnished by him/her and may include, but not be limited to, plans in duplicate drawn to scale showing the location, dimensions, and elevation of proposed landscape alterations, existing and proposed structures, including the placement of manufactured homes, and the location of the foregoing in relation to Special Flood Hazard Area.

A. The following information is required:

1. Elevation (in relation to mean sea level), of the lowest floor (including basement) of all new and substantially improved structures;
2. Elevation in relation to mean sea level to which any nonresidential structure shall be floodproofed;
3. A certificate from a registered Colorado Professional Engineer or architect that the nonresidential floodproofed structure shall meet the floodproofing criteria of 17.90.160 (2);
4. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.
5. Maintain a record of all such information in accordance with 17.90.050 of this Chapter.

B. Approval or denial of a Floodplain Development Permit by the Floodplain Administrator shall be based on all of the provisions of this Chapter and the following relevant factors:

1. The danger to life and property due to flooding or erosion damage;
2. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
3. The danger that materials may be swept onto other lands to the injury of others;
4. The compatibility of the proposed use with existing and anticipated development;
5. The safety of access to the property in times of flood for ordinary and emergency vehicles;
6. The costs of providing governmental services during and after flood conditions including maintenance and repair of streets and bridges, and public utilities and facilities such as sewer, gas, electrical and water systems;
7. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site;

8. The necessity to the facility of a waterfront location, where applicable;
9. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
10. The relationship of the proposed use to the comprehensive plan for that area.

17.90.140 Variance Procedure

~~A. Appeal Board.~~

~~1. A. The Board of Adjustment as established by the Town shall hear and decide appeals and render judgment on any requests for variances from the requirements of this Chapter.~~

~~2. B. The Board of Adjustment shall hear and decide render judgment on appeals an appeal when it is alleged there is an error in any requirement, decision or determination made by the Floodplain Administrator in the enforcement or administration of this Chapter.~~

~~3. C. ~~Those~~ Any person or persons aggrieved by the decision of the Board of Adjustment may appeal such decision ~~to the District Court as provided by Rule 106, C.R.C.P. in the courts of competent jurisdiction.~~~~

~~4. In passing upon such applications, the Board of Adjustment shall consider all technical evaluations, all relevant factors, standards specified in other sections of this Chapter, and:~~

~~a. The danger that materials may be swept onto other lands to the injury of others;~~

~~b. The danger to life and property due to flooding or erosion damage;~~

~~c. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;~~

~~d. The importance of the services provided by the proposed facility to the community;~~

~~e. The necessity to the proposed use of a waterfront location, where applicable;~~

~~f. The availability of alternative locations, for the proposed use which are not subject to flooding or erosion damage;~~

- ~~g. The compatibility of the proposed use with existing and anticipated development;~~
- ~~h. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;~~
- ~~I. The safety of access to the property in times of flood for ordinary and emergency vehicles;~~
- ~~j. 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~~
- ~~k. 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.~~

~~5. D.~~ Upon consideration of these factors and the purposes of this Chapter, the board of adjustment may attach such conditions to the granting of variances as it deems necessary to further the purposes of this Chapter.

~~5. E.~~ The Floodplain Administrator shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

~~B. Conditions for Variances.~~

~~1. F.~~ ~~Generally,~~ variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing items set forth ~~above~~ in Section 17.90.130 have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.

~~2. G.~~ Variances may be issued for the repair or rehabilitation ~~or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in the remainder of this section.~~ of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

~~3.~~ H. Variances shall not be issued within any designated floodway if any increase in flood levels or velocities during the base flood discharge would result.

~~4.~~ ~~Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.~~

I. Prerequisites for granting variances:

1. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

~~5.~~2. Variances shall only be issued upon:

- a. A showing of good and sufficient cause;
- b. A determination that failure to grant the variance would result in exceptional hardship to the applicant; and
- c. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

~~6.~~3. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

J. Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a Functionally Dependent Use provided that:

1. The criteria outlined in 17.90.140 A - I are met, and
2. The structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

17.90.150 General Standards for Flood Hazard Reduction

A. ~~Floodway.~~

- ~~1. Prohibited Uses and Activities. The following uses and activities are prohibited in the Floodway:~~
 - ~~a. Encroachments, including fill, new construction, substantial improvements and other development unless a technical evaluation demonstrates that encroachments shall not result in any increase in flood levels or velocities during the occurrence of the base flood discharge. If the technical evaluation satisfies the requirement, all new construction and substantial improvements shall be required to meet the performance standards set forth in 17.90.150(B)(3).~~
 - ~~b. The storage or processing of materials that in times of flooding are buoyant, flammable, explosive or otherwise potentially injurious to human, animal or plant life.~~
 - ~~c. The disposal of garbage or other solid waste materials.~~
 - ~~d. The placement of any structures, either fixed or mobile, for purposes of human occupation, either permanent or temporary.~~
 - ~~e. Any obstruction which would adversely affect the efficiency of or restrict the flow capacity of a designated floodplain so as to cause foreseeable damage to others.~~
- ~~2. Permissible Uses. The following are permitted in the Floodway if present underlying zoning allows such uses:~~
 - ~~a. Agriculture, such as farming, grazing and forestry.~~
 - ~~b. Loading and parking areas for industrial and commercial uses not requiring paving or grading.~~
 - ~~c. Recreation and open space uses such as parks, golf courses, picnic grounds, green belts, wildlife preserves and trails systems, provided that no permanent structures are constructed.~~

- d. ~~Any fence, pipeline or structure for which the primary use is the diversion or storage of water or the control of flooding or any similar use.~~

~~B. Flood Fringe/Flood Prone Areas.~~

~~1. Prohibited Uses and Activities. The following uses and activities are prohibited in the Flood Fringe/Flood Prone Areas:~~

- b. ~~The development, use, fill, construction, substantial improvement or alteration on or above any portion of the Flood Fringe or Flood Prone Areas which alone, or cumulatively with other activities, would cause or result in the danger of substantial solid debris being carried downstream by floodwaters.~~
- e. ~~The storage or processing of materials that in times of flooding are buoyant, flammable, explosive or otherwise potentially injurious to human, animal or plant life.~~
- d. ~~The disposal of garbage or other solid waste materials.~~
- e. ~~Any obstruction which would adversely affect the efficiency of or restrict the flow capacity of a designated floodplain so as to cause foreseeable damage to others.~~

~~Permissible Uses. All uses permitted in the Floodway and all lawful uses permitted by the underlying zoning are permitted in the Flood Fringe and Flood Prone Areas subject to 17.90.150 (B)(1), the regulations concerning Floodplain Development Permits, and the performance standards set forth below.~~

~~Performance Standards. The performance standards set forth in 17.90.160 through 17.90.190 must be met for development in the Floodway, Flood Fringe or Flood Prone Areas.~~

In all Special Flood Hazard Areas the following provisions are required for all new construction and substantial improvements:

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

B. All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;

C. All new construction or substantial improvements shall be constructed with materials resistant to flood damage;

D. All new construction or 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;

E. All manufactured homes shall be installed using methods and practices which minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not 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.

F. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;

G. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from the systems into flood waters; and,

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

~~17.90.160 Anchoring~~

~~All mobile homes, new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure and to withstand hydrostatic and hydrodynamic loads. The methods for anchoring shall be determined by a licensed registered professional engineer in the State of Colorado, through site-specific analysis of the proposed use and identifiable hazards.~~

~~17.90.170 Construction Materials and Methods~~

~~All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage, using methods and practices that minimize flood~~

~~damage. For all new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must be certified by a registered professional engineer in the State of Colorado.~~

~~17.90.180~~ Utilities

~~All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system; new replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters; and on site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding. Electrical heating, ventilation, plumbing, and air conditioning equipment and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.~~

~~17.90.190~~ Subdivision Proposals

~~A. All subdivision proposals shall be consistent with the need to minimize flood damage;~~

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

~~C. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage;~~

~~D. Base flood elevation data shall be provided for all lots subjected to inundation by the base flood; and~~

~~E. The location of the 100 Year Floodplain of any drainage with tributary areas of forty (40) acres on or adjacent to the site of the proposed subdivision shall be mapped and shown on the proposal.~~

~~17.90.200~~ ~~17.90.160~~ Specific Standards

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Section 17.90.050 or Section ~~17.90.130(B)~~ 17.90.120(G), the provisions set forth in Sections ~~17.90.210 through 17.90.230~~ this Section are required.

~~17.90.210~~ A. Residential Construction

New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities (including ductwork), elevated to ~~not less than one (1) foot above the maximum water surface elevation of the 100 Year Flood.~~ the base flood elevation. Upon

completion of the structure, the elevation of the lowest floor, including basement, shall be certified by a registered Colorado Professional Engineer, architect, or land surveyor. Such certification shall be submitted to the Floodplain Administrator.

17.90.220 B. Nonresidential Construction

With the exception of Critical Facilities, outlined in 17.90.220 of this Chapter, new construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either: must A. have the lowest floor, including basement, electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities (including ductwork), elevated to not less than one (1) foot above the maximum water surface elevation of the 100 Year Flood the base flood elevation or, together with attendant utility and sanitary facilities, be designed so that at one foot above the base flood elevation the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered Colorado Professional Engineer or architect shall develop and/or review structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with accepted standards of practice as outlined in this subsection. Such certification shall be maintained by the Floodplain Administrator, as proposed in 17.90.130 of this Chapter.

~~B. — Provide Flood-Proofing improvements so that below an elevation of one (1) foot above the maximum water elevation of the 100 Year Flood, the structure, together with attendant utility and sanitary facilities, is watertight with walls substantially impermeable to the passage of water. Structural components shall be capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect shall develop and/or review structural design, specifications and plans for the construction, and shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the applicable provisions of this Chapter, and (ii) a record of such certificates which includes the specific elevation (in relation to mean sea level) to which such structures are Flood-Proofed shall be maintained with the official designated by the Town under 17.90.130 of this Code.~~

17.90.230 C. Manufactured Homes

~~A. — Manufactured homes shall be anchored in accordance with 17.90.160.~~

B-1. All manufactured homes that are placed or substantially improved within Zones A1-30, AH, and AE on the community's FIRM on sites (i) outside of a manufactured home park or subdivision, (ii) in a new manufactured home park or

subdivision, (iii) in an expansion to an existing manufactured home park or subdivision, or (iv) in an existing manufactured home park or subdivision on which manufactured home has incurred "substantial damage" as a result of a flood, be elevated on a permanent foundation such that the lowest floor of the manufactured home, electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities (including ductwork), shall be are elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to not less than one (1) foot above the maximum water surface elevation of the 100 Year Flood base flood elevation and is be securely anchored to an adequately engineered and constructed anchored foundation system to resist flotation, collapse, and lateral movement.

2. All manufactured homes placed or substantially improved on sites in an existing manufactured home park or subdivision within Zones A1-30, AH and AE on the New Castles' FIRM that are not subject to the provisions of the above paragraph, shall be elevated so that either:

- a. The lowest floor of the manufactured home, electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities (including ductwork), are one foot above the base flood elevation, or
- b. The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

D. Enclosures

1. New construction and substantial improvements, with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access, or storage in an area other than a basement 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.

2. Designs for meeting this requirement must either be certified by a registered Colorado Professional Engineer or architect or meet or exceed the following minimum criteria:

- a. A minimum of two openings having a total net area of not less than one 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 foot above grade.
- c. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

E. Recreational Vehicles

1. All recreational vehicles placed on sites within Zones A1-30, AH, and AE on the New Castle's FIRM either:
 - a. Be on the site for fewer than 180 consecutive days,
 - b. Be fully licensed and ready for highway use, or
 - c. Meet the permit requirements of 17.90.130 of this Chapter, and the elevation and anchoring requirements for "manufactured homes" in paragraph (4) of this section.
2. 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.

F. Prior Approved Activities

Any activity for which a Floodplain Development Permit was issued by New Castle or a CLOMR was issued by FEMA prior to April 1, 2014 may be completed according to the standards in place at the time of the permit or CLOMR issuance and will not be considered in violation of this Chapter if it meets such standards.

17.90.170 Standards for Areas of Shallow Flooding (AO/AH ZONES)

Located within the Special Flood Hazard Area established in 17.90.050 of this Chapter, are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of 1 to 3 feet where a clearly defined channel does not exist and where the path

of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow; therefore, the provisions set forth in this 17.90.170 of this Chapter are required.

A. Residential Construction

All new construction and Substantial Improvements of residential structures must have the lowest floor (including basement), electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities (including ductwork), elevated above the highest adjacent grade at least one foot above the depth number specified in feet on the community's FIRM (at least three feet if no depth number is specified). Upon completion of the structure, the elevation of the lowest floor, including basement, shall be certified by a registered Colorado Professional Engineer, architect, or land surveyor. Such certification shall be submitted to the Floodplain Administrator.

B. Nonresidential Construction

1. With the exception of Critical Facilities, outlined in 17.90.220 of this Chapter, all new construction and Substantial Improvements of non-residential structures, must have the lowest floor (including basement), electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities (including ductwork), elevated above the highest adjacent grade at least one foot above the depth number specified in feet on the community's FIRM (at least three feet if no depth number is specified), or together with attendant utility and sanitary facilities, be designed so that the structure is watertight to at least one foot above the base flood level with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy. A registered Colorado Professional Engineer or architect shall submit a certification to the Floodplain Administrator that the standards of this Section, as proposed in 17.90.130 of this Chapter, are satisfied.

2. Within Zones AH or AO, adequate drainage paths around structures on slopes are required to guide flood waters around and away from proposed structures.

17.90.180 Floodways

Floodways are administrative limits and tools used to regulate existing and future floodplain development. The State of Colorado has adopted Floodway standards that are more stringent than the FEMA minimum standard (see definition of Floodway). Located within

Special Flood Hazard Area established in 17.90.050 of this Chapter, 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 shall apply:

A. Encroachments are prohibited, including fill, new construction, substantial improvements and other development within the adopted regulatory Floodway *unless* it has been demonstrated through hydrologic and hydraulic analyses performed by a licensed Colorado Professional Engineer and in accordance with standard engineering practice that the proposed encroachment would not result in any increase (requires a No-Rise Certification) in flood levels within the community during the occurrence of the base flood discharge.

B. If 17.90.180 A. above is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions herein.

C. Under the provisions of 44 CFR Chapter 1, Section 65.12, of the National Flood Insurance Regulations, a community may permit encroachments within the adopted regulatory floodway that would result in an increase in Base Flood Elevations, provided that the community first applies for a CLOMR and floodway revision through FEMA.

17.90.190 Alteration of a Watercourse

For all proposed developments that alter a watercourse within a Special Flood Hazard Area, the following standards apply:

A. Channelization and flow diversion projects shall appropriately consider issues of sediment transport, erosion, deposition, and channel migration and properly mitigate potential problems through the project as well as upstream and downstream of any improvement activity. A detailed analysis of sediment transport and overall channel stability should be considered, when appropriate, to assist in determining the most appropriate design.

B. Channelization and flow diversion projects shall evaluate the residual 100-year floodplain.

C. Any channelization or other stream alteration activity proposed by a project proponent must be evaluated for its impact on the regulatory floodplain and be in compliance with all applicable Federal, State and local floodplain rules, regulations and ordinances.

D. Any stream alteration activity shall be designed and sealed by a registered Colorado Professional Engineer or Certified Professional Hydrologist.

E. All activities within the regulatory floodplain shall meet all applicable Federal, State and New Castle floodplain requirements and regulations.

F. Within the Regulatory Floodway, stream alteration activities shall not be constructed unless the project proponent demonstrates through a Floodway analysis and report, sealed by a registered Colorado Professional Engineer, that there is not more than a 0.00-foot rise in the proposed conditions compared to existing conditions Floodway resulting from the project, otherwise known as a No-Rise Certification, unless the community first applies for a CLOMR and Floodway revision.

G. Maintenance shall be required for any altered or relocated portions of watercourses so that the flood-carrying capacity is not diminished.

17.90.200 Properties Removed From The Floodplain By Fill

A Floodplain Development Permit shall not be issued for the construction of a new structure or addition to an existing structure on a property removed from the floodplain by the issuance of a FEMA Letter of Map Revision Based on Fill (LOMR-F), unless such new structure or addition complies with the following:

A. RESIDENTIAL CONSTRUCTION

The lowest floor (including basement), electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities (including ductwork), must be elevated to one foot above the Base Flood Elevation that existed prior to the placement of fill.

B. NONRESIDENTIAL CONSTRUCTION

The lowest floor (including basement), electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities (including ductwork), must be elevated to one foot above the Base Flood Elevation that existed prior to the placement of fill, or together with attendant utility and sanitary facilities be designed so that the structure or addition is watertight to at least one foot above the base flood level that existed prior to the placement of fill with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy.

17.90.210 Standards For Subdivision Proposals

- A. All subdivision proposals including the placement of manufactured home parks and subdivisions shall be reasonably safe from flooding. If a subdivision or other development proposal is in a flood-prone area, the proposal shall minimize flood damage.

- B. All proposals for the development of subdivisions including the placement of manufactured home parks and subdivisions shall meet Floodplain Development Permit requirements of of this Chapter.

- C. Base Flood Elevation data shall be generated for subdivision proposals and other proposed development including the placement of manufactured home parks and subdivisions which is greater than 50 lots or 5 acres, whichever is lesser, if not otherwise provided pursuant to 17.90.050 or 17.90.120 of this Chapter.

- D. All subdivision proposals including the placement of manufactured home parks and subdivisions shall have adequate drainage provided to reduce exposure to flood hazards.

- E. All subdivision proposals including the placement of manufactured home parks and subdivisions shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

17.90.220 Standards For Critical Facilities

A Critical Facility is a structure or related infrastructure, but not the land on which it is situated, as specified in Rule 6 of the Rules and Regulations for Regulatory Floodplains in Colorado, that if flooded may result in significant hazards to public health and safety or interrupt essential services and operations for the community at any time before, during and after a flood.

A. CLASSIFICATION OF CRITICAL FACILITIES

It is the responsibility of the Town Council to identify and confirm that specific structures in their community meet the following criteria:

Critical Facilities are classified under the following categories: (a) Essential Services; (b) Hazardous Materials; (c) At-risk Populations; and (d) Vital to Restoring Normal Services.

1. Essential services facilities include public safety, emergency response, emergency medical, designated emergency shelters, communications, public utility plant facilities, and transportation lifelines.
 - a. These facilities consist of:
 - i. Public safety (police stations, fire and rescue stations, emergency vehicle and equipment storage, and, emergency operation centers);
 - ii. Emergency medical (hospitals, ambulance service centers, urgent care centers having emergency treatment functions, and non-ambulatory surgical structures but excluding clinics, doctors offices, and non-urgent care medical structures that do not provide these functions);
 - iii. Designated emergency shelters;
 - iv. Communications (main hubs for telephone, broadcasting equipment for cable systems, satellite dish systems, cellular systems, television, radio, and other emergency warning systems, but excluding towers, poles, lines, cables, and conduits);
 - v. Public utility plant facilities for generation and distribution (hubs, treatment plants, substations and pumping stations for water, power and gas, but not including towers, poles, power lines, buried pipelines, transmission lines, distribution lines, and service lines); and
 - vi. Air Transportation lifelines (airports (municipal and larger), helicopter pads and structures serving emergency functions, and associated infrastructure (aviation control towers, air traffic control centers, and emergency equipment aircraft hangars).
 - b. Specific exemptions to this category include wastewater treatment plants (WWTP), non-potable water treatment and distribution systems, and hydroelectric power generating plants and related appurtenances.
 - c. Public utility plant facilities may be exempted if it can be demonstrated to the satisfaction of the Town Council that the facility is an element of a

redundant system for which service will not be interrupted during a flood. At a minimum, it shall be demonstrated that redundant facilities are available (either owned by the same utility or available through an intergovernmental agreement or other contract) and connected, the alternative facilities are either located outside of the 100-year floodplain or are compliant with the provisions of this Chapter, and an operations plan is in effect that states how redundant systems will provide service to the affected area in the event of a flood. Evidence of ongoing redundancy shall be provided to the Town Council on an as-needed basis upon request.

2. Hazardous materials facilities include facilities that produce or store highly volatile, flammable, explosive, toxic and/or water-reactive materials.
 - a. These facilities may include:
 - i. Chemical and pharmaceutical plants (chemical plant, pharmaceutical manufacturing);
 - ii. Laboratories containing highly volatile, flammable, explosive, toxic and/or water-reactive materials;
 - iii. Refineries;
 - iv. Hazardous waste storage and disposal sites; and
 - v. Above ground gasoline or propane storage or sales centers.
 - b. Facilities shall be determined to be Critical Facilities if they produce or store materials in excess of threshold limits. If the owner of a facility is required by the Occupational Safety and Health Administration (OSHA) to keep a Material Safety Data Sheet (MSDS) on file for any chemicals stored or used in the work place, AND the chemical(s) is stored in quantities equal to or greater than the Threshold Planning Quantity (TPQ) for that chemical, then that facility shall be considered to be a Critical Facility. The TPQ for these chemicals is: either 500 pounds or the TPQ listed (whichever is lower) for the 356 chemicals listed under 40 C.F.R. § 302 (2010), also known as Extremely Hazardous Substances (EHS); or 10,000 pounds for any other chemical. This threshold is consistent with the requirements for reportable chemicals established by the Colorado

Department of Health and Environment. OSHA requirements for MSDS can be found in 29 C.F.R. § 1910 (2010). The Environmental Protection Agency (EPA) regulation “Designation, Reportable Quantities, and Notification,” 40 C.F.R. § 302 (2010) and OSHA regulation “Occupational Safety and Health Standards,” 29 C.F.R. § 1910 (2010) are incorporated herein by reference and include the regulations in existence at the time of the promulgation this Chapter, but exclude later amendments to or editions of the regulations

- c. Specific exemptions to this category include:
 - i. Finished consumer products within retail centers and households containing hazardous materials intended for household use, and agricultural products intended for agricultural use.
 - ii. Buildings and other structures containing hazardous materials for which it can be demonstrated to the satisfaction of the local authority having jurisdiction by hazard assessment and certification by a qualified professional (as determined by the local jurisdiction having land use authority) that a release of the subject hazardous material does not pose a major threat to the public.
 - iii. Pharmaceutical sales, use, storage, and distribution centers that do not manufacture pharmaceutical products.
 - d. These exemptions shall not apply to buildings or other structures that also function as Critical Facilities under another category outlined in this Chapter.
3. At-risk population facilities include medical care, congregate care, and schools.
- a. These facilities consist of:
 - i. Elder care (nursing homes);
 - ii. Congregate care serving 12 or more individuals (day care and assisted living);

iii. Public and private schools (pre-schools, K-12 schools), before-school and after-school care serving 12 or more children);

4. Facilities vital to restoring normal services including government operations.

a. These facilities consist of:

i. Essential government operations (public records, courts, jails, building permitting and inspection services, community administration and management, maintenance and equipment centers);

ii. Essential structures for public colleges and universities (dormitories, offices, and classrooms only).

b. These facilities may be exempted if it is demonstrated to the Town Council that the facility is an element of a redundant system for which service will not be interrupted during a flood. At a minimum, it shall be demonstrated that redundant facilities are available (either owned by the same entity or available through an intergovernmental agreement or other contract), the alternative facilities are either located outside of the 100-year floodplain or are compliant with this Chapter, and an operations plan is in effect that states how redundant facilities will provide service to the affected area in the event of a flood. Evidence of ongoing redundancy shall be provided to the Town Council on an as-needed basis upon request.

B. PROTECTION FOR CRITICAL FACILITIES

All new and substantially improved Critical Facilities and new additions to Critical Facilities located within the Special Flood Hazard Area shall be regulated to a higher standard than structures not determined to be Critical Facilities. For the purposes of this Chapter, protection shall include one of the following:

1. Location outside the Special Flood Hazard Area; or

2. Elevation of the lowest floor or floodproofing of the structure, together with attendant utility and sanitary facilities, to at least two feet above the Base Flood Elevation.

C. INGRESS AND EGRESS FOR NEW CRITICAL FACILITIES

New Critical Facilities shall, when practicable as determined by the Town Council, have continuous non-inundated access (ingress and egress for evacuation and emergency services) during a 100-year flood event.

17.90.230 Penalties

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations. Violation of the provisions of this ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a municipal offense. Any person who violates this ordinance or fails to comply with any of its requirements shall upon conviction thereof be fined or imprisoned as provided by the laws of New Castle. Nothing herein contained shall prevent the Town of New Castle from taking such other lawful action as is necessary to prevent or remedy any violation.

17.90.240 Effective Date. This Ordinance shall take effect April 1, 2014.

INTRODUCED on February ___, 2014, at which time copies were available to the Council and to those persons in attendance at the meeting, read by title, passed on first reading, set for public hearing, ordered published twice in full and posted in at least two public places within the Town as required by the Charter.

INTRODUCED a second time at a public hearing of the Council of the Town of New Castle, Colorado, on February ___, read by title and number, approved, and ordered published as required by the Charter.

TOWN OF NEW CASTLE, COLORADO

By: _____
Frank Breslin, Mayor

ATTEST:

Melody Harrison, Town Clerk