

RESOLUTION NO. PC-2026-0025

A RESOLUTION BY THE OREM CITY PLANNING COMMISSION
RECOMMENDING THE CITY COUNCIL AMEND CHAPTER 10
OF THE OREM CITY CODE RELATING TO FLOOD DAMAGE
PREVENTION

WHEREAS Community Development Department staff have requested the City amend Chapter 10 of the Orem City code relating to flood damage protection; and

WHEREAS a public hearing considering the subject application was held by the Planning Commission on June 3rd, 2026; and

WHEREAS a notice of the Planning Commission public hearing for this Text Amendment application was posted in all required locations and within the timeline mandated by the State of Utah and by Orem City Code; and

WHEREAS the matter having been submitted and the Planning Commission having fully considered the request as it relates to the health, safety, and general welfare of the City; the orderly development of land in the City; the effect upon the surrounding neighborhood; the compliance of the request with all applicable City ordinances and the Orem General Plan, and the special conditions applicable to the request.

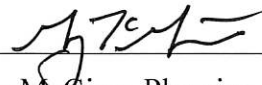
BE IT RESOLVED BY THE PLANNING COMMISSION OF THE CITY OF OREM, UTAH, as follows:

1. The Planning Commission finds this request will not negatively affect the health, safety, and general welfare of the City.
2. The Planning Commission hereby recommends the City Council amend Chapter 10 of the Orem City code relating to flood damage prevention as shown on Exhibit "A" which is attached hereto and incorporated herein by reference.
3. This resolution shall take effect immediately upon passage.
4. If any part of this resolution shall be declared invalid, such decision shall not affect the validity of the remainder of this resolution.
5. All other resolutions or policies in conflict herewith, either in whole or part, are hereby repealed.

PASSED and APPROVED this 3rd day of June 2026.


CITY OF OREM, by
Madeline Komen, Chairman

ATTEST:


Gary McGinn, Planning Commission Secretary

PLANNING COMMISSION MEMBER	AYE	NAY	ABSTAIN	ABSENT
Jeff Reeves	☒	☐	☐	☐
Susan Madsen	☒	☐	☐	☐
Darren Hawkins	☒	☐	☐	☐
Karl Radmall	☒	☐	☐	☐
Madeline Komen	☒	☐	☐	☐
Britton Runolfson	☐	☐	☐	☒
Micah Ladle	☒	☐	☐	☐

CHAPTER 10. FLOOD DAMAGE PREVENTION

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Article 10-1. Purposes.

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10-1-1. Statement of Purpose and Authorization

A. It is the purpose of this Chapter to promote the public health, safety, and general welfare of the community, and to minimize public and private losses due to flood conditions to specific areas by provisions designed:

1. To protect human life and health;
2. To minimize public expenditures on ~~of public money for costly~~ flood control projects;
3. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
4. To minimize prolonged business interruptions caused by flooding;
5. To minimize damage to public infrastructure, including but not limited to facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges ~~located in floodplains~~ susceptible to flooding;

6. To help maintain a stable tax base by providing for the sound use and development of flood prone areas of special flood hazard so as to minimize ~~blight to future flood-prone areas~~ future flood blight areas;
 7. To ~~ensure~~ promote that potential buyers are notified ~~that property is in an area of special flood hazard~~ if properties are in an area of special flood hazard (SFHA);
 8. To protect and safeguard the welfare and safety of first responders should an emergency response is needed; and,
 9. To ensure that those who occupy the areas of special flood hazards assume responsibility for their actions.
- B. The City of Orem elects to comply with the requirements of the National Flood Insurance Act of 1968 (P.L. 90-488, as amended). The National Flood Insurance Program (NFIP) ~~which is a voluntary program administered by the Federal Emergency Management Agency (FEMA), a component of the U.S. Department of Homeland Security, and the~~ The City of Orem has elected to join the program, participate, and enforce this Flood Damage Prevention Ordinance and the requirements and regulations of the NFIP. The NFIP, established in the aforesaid act, provides that areas of the City of Orem have a special flood hazard identified by FEMA, and that floodplain management measures should be applied in such flood hazard areas. The National Flood Insurance Program was broadened and modified with the passage of the Flood Disaster Protection Act of 1973 and other legislative measures. It was further modified by the National Flood Insurance Reform Act of 1994. The National Flood Insurance Program is administered by the Federal Emergency Management Agency, a component of the U.S. Department of Homeland Security.
- C. ~~Furthermore, the~~ The City of Orem may elect to administer the Flood Damage Prevention Ordinance to areas not identified as Special Flood Hazard Areas (SFHAs) by FEMA on the City's effective Flood Insurance Rate Map (FIRM), if the City has documentation to support that there is an inherent risk of flooding in such areas.

10-1-2. Methods of Reducing Flood Losses.

- A. In order to accomplish its purposes, this Chapter includes methods and provisions for:
 1. Restricting or prohibiting uses which are dangerous to health, safety, and property in times of flooding, or cause excessive ~~due to water or erosion hazards, or which result in damaging~~ increases in erosion or in flood heights or velocities;
 2. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

3. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which ~~help accommodate or channel~~ are involved in the accommodation of flood waters;
4. Controlling filling, grading, dredging, and other development which ~~that~~ may increase flood damage; and,
5. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or ~~which~~ may increase flood hazards in other ~~areas~~ lands.

10-1-3. Statutory Authorization.

Utah Code - Section ~~10-9a-505~~ 10-20-505(1)(c) authorizes a municipality to enact an ordinance regulating land use and development in a floodplain to protect life and to prevent substantial damage or loss to real property.

10-1-4. Findings of Fact.

- A. ~~The flood hazard areas of~~ Special Flood Hazard Areas (SFHA) within the City of Orem are subject to periodic inundation by flood waters which results in potential loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety, and general welfare.
- B. These potential flood losses are created by:
 - a. The cumulative effect of obstructions in floodplains that cause an increase in flood heights and velocities;
 - b. ~~and by the~~ The occupancy of ~~flood hazard areas~~ Special Flood Hazard Areas (SFHA) by ~~uses~~ structures vulnerable to floods ~~and hazardous to other lands~~ because they are inadequately elevated, flood-proofed, or otherwise protected from flood damage; and
 - c. Uses deemed unsuitable for floodplain areas or that do not account for the increased flood risk.

Article 10-2. Definitions

Contents:

10-2-1. Definitions.

10-2-1. 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. As used in this Chapter, the terms below shall have the following meanings:

100-year flood shall mean a flood having a recurrence interval that has a 1-percent chance of being equaled or exceeded during any given year (1-percent-annual-chance flood). The terms “100-hundred-year flood” and “1-percent-annual-chance flood” are synonymous. The term does not imply that the flood will necessarily happen once every 100 hundred years. Mandatory flood insurance requirements may apply.

500-year flood shall mean 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-annual-chance flood). The term does not imply that the flood will necessarily happen once every 500 years and mandatory flood insurance requirement generally does not apply.

Accessory structure shall mean a structure that is on the same parcel of property as a principal structure. Its use is incidental to the use of the principal structure; the ownership of the accessory structure is the same owner as the principal structure. An accessory structure is a non-residential structure of low value that is used solely for the parking of vehicles and storage of tools, materials, or equipment. No human habitation is allowed within an accessory structure.

Addition shall mean any improvement that expands the enclosed footprint or increases the square footage of an existing structure. This includes lateral additions added to the side, front, or rear of a structure; vertical additions added on top of a structure; and enclosures added underneath a structure.

Alluvial fan flooding shall mean flooding occurring on the surface of an alluvial fan or similar landform that originates at the apex. It is characterized by high-velocity flows; active processes of erosion, sediment transport, and deposition; and unpredictable flow paths.

Appurtenant Structure—see Accessory Structure.

Area of shallow flooding shall mean a designated AO, AH, AR/AO, or AR/AH, ~~or VO~~ zone on the City’s Flood Insurance Rate Map (FIRM) with a 1 percent or greater annual chance of flooding to an average depth of 1 to 3 feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of special flood-related erosion hazard shall mean the land within a community that is most likely to be subject to severe flood-related erosion losses. The area may be designated as Zone E on the Flood Hazard Boundary Map (FHBM). After the detailed evaluation of the special flood-related erosion hazard area, in preparation for publication of the FIRM. Zone E may be further refined.

Areas of Special Flood Hazard Areas (SFHA) ~~is the~~ shall mean land in the flood plain within the City subject to a 1 percent or greater chance of flooding in any given year. The area may be designated as Zone A on the Flood Hazard Boundary Map (FHBM). After detailed ratemaking has been completed in preparation for publication of the flood insurance rate map, Zone A usually is refined into Zones A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, ~~VO~~, or V1-30, VE, or V. For purposes of these regulations, the term “special flood hazard area” is synonymous in meaning with the phrase “area of special flood hazard”.

Base flood shall mean the flood having a one percent chance of being equaled or exceeded in any given year.

Base Flood Elevation (BFE) ~~is~~ shall mean the water surface elevation of the one (1) percent annual chance flood ~~event~~. ~~The~~ It is the height in relation to mean sea level expected to be reached by the waters of the base flood at pertinent points in the floodplains of coastal and riverine areas. It is also the elevation shown on the FIRM and found in the accompanying Flood Insurance Study (FIS) for Zones A, AE, AH, A1-A30, AR, V1-V30, or VE that indicates the water surface elevation resulting from the flood that has a 1-percent chance of equaling or exceeding that level in any given year.

Building—see Structure.

Channelization shall mean the artificial creation, enlargement, realignment, or alteration of a stream channel's slope, shape, or alignment. Streambank restoration may be deemed as channelization.

Coastal A Zone (CAZ) shall mean an area within a Special Flood Hazard Areas (SFHA), landward of a V zone or landward of an open coast without mapped V zones. In a Coastal A Zone, the principal source of flooding must be astronomical tides, storm surges, seiches, or tsunamis, not riverine flooding. During the base flood conditions, the potential for wave heights shall be greater than or equal to 1.5 feet. Coastal A Zones are not normally designated on FIRMs. (see Limit of Moderate Wave Action (LiMWA))

Code of Federal Regulations (CFR) shall mean the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government.

Conditional Letter of Map Revision (CLOMR) is FEMA's comment on a proposed project that would, upon construction, affect the hydrologic and/or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective BFEs, and/or the SFHA. The letter does not revise an effective map; it indicates whether the project, if built as proposed, would be recognized by FEMA.

Conditional Letter of Map Revision Based on Fill (CLOMR-F) is FEMA's comment on a proposed structure or property. The letter does not revise an effective map; it indicates whether the project, if built as proposed, would be removed from the floodplain.

Crawlspace shall mean an under-floor space that has its interior floor area (finished or not) no more than 4 feet from the bottom floor joist the next higher floor elevation, designed with proper openings that equalize hydrostatic pressures of flood water, and is not used for habitation. Reference: ARTICLE V, SECTION B.5 CRAWLSPACE

Critical facility shall mean a facility or building where even a slight chance of flooding is too great a threat. Typical critical facilities include hospitals, fire stations, police stations, schools, storage of critical records, assisted living and similar facilities.

Deed restriction shall mean a clause in a deed that limits the future use of the property in some respect. Deed restrictions may impose a vast variety of limitations and conditions. For example, they may limit the density of buildings, dictate the types of structures that can be erected, or prevent buildings from being used for specific purposes or from being used at all.

Detached garage shall mean a building that is used solely for storage of materials or vehicle parking for up to four housing occupants. If a detached garage is designed or used for habitation or conducting business, or has multiple stories, then the building is not considered a detached garage under the NFIP.

Development shall mean any ~~man-made~~ human-made change to improved or unimproved real estate, including but not limited to buildings or other structures, ~~demolition of buildings or structures, fences, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials located within the area of special flood hazard.~~ mining, dredging, filling, grading, paving, demolition, excavation or drilling operations, or storage either temporary or permanent of equipment or materials.

Elevated building shall mean a non-basement building built, in the case of a building in Zone A1-30, AE, A, A99, AR, AO, AH, B, C, X and D, to have the top of the elevated floor above the ground level by means of pilings, columns (post and piers), or shear walls parallel to the flow of the water and 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 a building in Zone A1-30, AE, A, A99, AR, AO, AH, B, C, X and D, an "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.

Enclosure shall mean an enclosed walled-in area below the lowest floor of an elevated building. Enclosures below the BFE may only be used for building access, vehicle parking, and storage.

Erosion shall mean the process of the gradual wearing away of land masses by wind, water, or other natural agents as defined in Title 44 Code of Federal Regulations § 59.1.

Existing construction/existing structures ~~means for the purposes of determining rates;~~ **shall mean** structures for which the “start of construction” occurred before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. ~~“Existing construction” may also be referred to as “existing structures.”~~

Existing manufactured home park or subdivision ~~means~~ **shall mean** 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~~ **shall mean** the preparation of additional sites by the construction of facilities for servicing the lots on which the manufacturing 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).

FEMA shall means the Federal Emergency Management Agency.

Fill shall mean the placement of materials, such as dirt, sand, or rock to elevate a structure, property, or portion of a property above the natural elevation of the site, regardless of where the material was obtained from. The common practice of removing unsuitable material and replacing with engineered material is not considered fill if the elevations are returned to the existing conditions. Any fill placed or used prior to the area being mapped as a Special Flood Hazard Area (SFHA) is not deemed as fill.

Flood or flooding shall mean:

a general and temporary condition of partial or complete inundation of normally dry land areas from:

1. A general and temporary condition of partial or complete inundation of normally dry land areas from:
 - a. The overflow of inland or tidal waters ~~and/or~~
 - b. The unusual and rapid accumulation or runoff of surface waters from any source; or
2. Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in paragraph (2) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current; or

3. The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in this ordinance.

Flood Insurance Rate Map (FIRM) shall mean FEMA's official map of a community on which FEMA has delineated both the special hazard areas and the risk premium zones applicable to the community.

~~**Flood Insurance Study or Flood Elevation Study**~~ **Flood insurance study or flood elevation study** means shall mean an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.

Floodplain development permit shall mean a community issued permit or document that is used for any development that occurs within an SFHA identified by FEMA or the community. It is used to address the proposed development to ensure compliance with the community's ordinance.

Floodplain or Flood-Prone area shall mean any land area susceptible to being inundated by water from any source whether or not identified by FEMA (see definition of Flooding).

Floodplain management shall mean 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, mitigation plans, and floodplain management regulations.

Floodplain management regulations shall mean 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 flood damage prevention and reduction.

Flood opening shall mean an opening in the wall of an enclosed structure that allows floodwaters to automatically enter and exit the enclosure. Refer to FEMA Technical Bulletin 1.

Flood protection system shall mean those physical structural works for which funds have been authorized, appropriated, and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the area within a community subject to an SFHA and to reduce the depths of associated flooding. Such a system typically includes hurricane tidal

barriers, dams, reservoirs, levees or dikes. These specialized, flood modifying works are those constructed in conformance with sound engineering standards. FEMA only accredits levees, both private and public, that have been certified by a professional engineer or firm in which the certification shows that the levee have met and continue to meet the minimum regulatory standards cited in Title 44 Code of Federal Regulations § 65.1.

Flood proofing ~~means~~ shall mean any combination of structural and 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. ~~Wet floodproofing includes permanent or contingent measures applied to a structure or its contents that prevent or provide resistance to damage from flooding while allowing floodwaters to enter the structure or area and may be applied to residential or non residential structures. Dry floodproofing is making a structure watertight below the level that needs flood protection to prevent floodwaters from entering. Making the structure watertight requires sealing the walls with waterproof coatings, impermeable membranes, or a supplemental layer of masonry or concrete and can only be used for non residential structures.~~ Floodproofing can either be accomplished in the form of dry floodproofing in which the structure is watertight below the levels that need flood protection, or wet floodproofing in permanent or contingent measures applied to a structure that prevent or provide resistance to damage from flooding, while allowing floodwaters to enter the structure or area.

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 elevation more than a designated height.~~ See *Regulatory Floodway*

Floodway encroachment lines shall mean the lines marking the limits of floodways on federal, state, and local flood plain maps.

Freeboard shall mean a factor of safety usually expressed in feet above a flood level for purposes of flood plain management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed.

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

Highest adjacent grade ~~means~~ shall mean the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure. In AO Zones, the highest adjacent grade is utilized by comparing the lowest floor elevation to that of the highest adjacent grade and the depth of the AO Zone. (Reference: 10-5-4... STANDARDS FOR AREAS OF SHALLOW FLOODING (AO/AH ZONES).

Historic Structure ~~structure~~ means shall mean any structure that is:

- A. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- B. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- C. Individually listed on a state inventory of historic places in states with historic reservation programs which have been approved by the Secretary of the Interior; or
- D. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - 1. By an approved state program as determined by the Secretary of the Interior or
 - 2. Directly by the Secretary of the Interior in states without approved programs.

Letter of Map Amendment (LOMA) shall mean an official amendment, by letter, to an effective FIRM. A LOMA establishes a property's location in relation to the SFHA. It is usually issued because a property or structure has been inadvertently mapped as being in the floodplain, when the property or structure is actually on natural high ground above the BFE.

Letter of Map Revision (LOMR) shall mean FEMA's modification or revision to an entire or portion of the effective FIRM, or Flood Boundary and Floodway Map, 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 BFEs, or the SFHA.

Letter of Map Revision Based on Fill (LOMR-F) shall mean FEMA's amendment, by letter, to an effective FIRM where fill was brought in or used to elevate a property, portion of property or structure above the BFE.

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

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

Lowest Adjacent Grade (LAG) shall mean the lowest natural elevation of the ground surface prior to construction next to the proposed walls of a structure. For an existing structure, it means the lowest point where the structure and ground touch, including but not limited to attached garages, decks, stairs, and basement windows.

Lowest Floor floor ~~means~~ shall mean the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of as defined in Title 44 Code of Federal Regulations § 60.3

Manufactured home shall mean a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle"; however, a manufactured home may be used for both residential and non-residential use.

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

Map shall mean the FHBM or the FIRM for a community issued by FEMA.

Mean sea level shall mean, for purposes of the NFIP, the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, or other datum, to which BFEs shown on a community's FIRM are referenced.

Mixed use structures shall mean structures with both a business and a residential component, but where the area used for business is less than 50 percent of the total floor area of the structure.

New construction ~~means~~ shall mean, ~~for the purposes of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, new construction means structures for which the start of construction commenced on or after the effective date of a floodplain management regulation adopted by the City and includes any subsequent improvements to such structures:~~ structures for which the start of construction commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any

subsequent improvements to such structures. For the purposes of determining insurance rates, structures for which the “start of construction” commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures.

New manufactured home park or subdivision shall mean 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 certifications shall mean formal certifications signed and stamped by a professional engineer licensed to practice in the state, demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that a proposed development will not result in any increase (0.00 feet) in flood levels within the community during the occurrence of a base flood event.

Otherwise Protected Area (OPA) see “Coastal Barrier Resources System (CBRS)”.

Physical Map Revision (PMR) shall mean FEMA’s action whereby one or more map panels are physically revised and republished.

Recreational vehicle ~~means~~ shall mean a vehicle which is:

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

Regulatory floodway ~~means~~ shall mean the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

Riverine shall mean relating to, formed by, or resembling a river (including tributaries), stream, brook, creek, etcetera, which can be intermittent or perennial.

Section 1316 shall mean the section of the National Flood Insurance Act of 1968, as amended, which provides for the denial of flood insurance coverage for any property that the Administrator finds has been declared by a duly constituted State or local authority to be in violation of State or local floodplain management regulations. Section 1316 is issued for a property, not a property owner, and remains with the property even after a change of ownership.

Special flood hazard area: see “area of special flood hazard”.

Special hazard area means an area having special flood, mudslide (i.e., mudflow), or flood-related erosion hazards, and shown on an FHBM or FIRM as Zone A, AO, A1-30, AE, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, A99, AH, VO, V1-30, VE, V, M, or E.

Start of Construction ~~construction~~ (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (Pub. L. 97-348)), ~~includes~~ **shall mean** substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either 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 the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure ~~means~~ **shall mean**, for floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.

Structure for insurance purposes, means:

- A. A building with two or more outside rigid walls and a fully secured roof, that is affixed to a permanent site;
- B. A manufactured home (“a manufactured home,” also known as a mobile home, is a structure - built on a permanent chassis, transported to its site in one or more sections, and affixed to a permanent foundation); or
- C. A travel trailer without wheels, built on a chassis and affixed to a permanent foundation, that is regulated under the community's floodplain management and building ordinances or laws.

~~For the latter purpose~~ **For insurance purposes**, “structure” does not mean a recreational vehicle or a park trailer or other similar vehicle, except as described in paragraph (3) of this definition, or a gas or liquid storage tank.

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

Substantial improvement shall mean any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:

A. 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

B. Any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure."

Violation ~~means~~ shall mean the failure of a structure or other development to be fully compliant with the provisions of this Chapter 10 ~~and/or the failure to obtain and maintain the elevation certificate, other certifications, or other evidence of compliance for a structure or other development.~~ A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Title 44 Code of Federal Regulations § 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 shall mean 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, such as the 1-percent-annual-chance flood event, in the flood plains of coastal or riverine areas.

Watercourse shall mean the channel and banks of an identifiable water in a creek, brook, stream, river, ditch or other similar feature.

Article 10-3. General Provisions

Contents:

- 10-3-1. Application of this Chapter.
- 10-3-2. Basis for establishing the areas of Special Flood Hazard.
- 10-3-3. Compliance.
- 10-3-4. Abrogation and Greater Restrictions.
- 10-3-5. Interpretation.
- 10-3-6. Warning and Disclaimer of Liability.

10-3-7. Severability

10-3-1. Application of this Chapter.

This Chapter shall apply to all areas of special flood hazards identified by FEMA ~~within the City of Orem~~, or if elected in 10-3-2(B), areas of identified and documented flood risk supported using Best Available Data within the jurisdiction within the City of Orem.

10-3-2. Basis for establishing ~~the areas of~~ Special Flood Hazard **Areas (SFHA).**

The areas of special flood hazard identified by the Federal Emergency Management Agency ~~in a scientific and engineering report entitled, "The Flood Insurance Study for Utah County and Incorporated Communities," dated June 19, 2020, with accompanying FIRMs;~~ in a scientific and engineering report entitled, "The Flood Insurance Study for Utah County and Incorporated Communities," dated June 23, 2026, with accompanying June 23, 2026 Flood Insurance Rate Maps and Flood Boundary-Floodway Maps (FIRM and FBFM) or Digital Flood Insurance Rate Maps (DFIRM), and other supporting data, are adopted by reference and declared a part of this ordinance and any revisions thereto are hereby automatically adopted by reference and declared to be a part of this ordinance.

- A. **Annexation.** This Chapter 10 shall be applicable to any land annexed into the City.
- B. Use of Best Available Data - Higher Standard Option Recommended: Where Base Level Engineering is available Base Level Engineering data shall be reviewed and reasonably used in FEMA-identified Special Flood Hazard Areas (SFHA), where base flood elevation and floodway data have not been identified and in areas where FEMA has not identified Special Flood Hazard Areas (SFHA).
 - a. Base flood elevations, floodway, and floodplain boundaries delineated by Base Level Engineering shall take precedence over base flood elevations, floodway, and floodplain boundaries delineated by effective FIRMs and in Flood Insurance Studies (FIS), if the Base Level Engineering shows increased floodplain or floodway boundaries and/or higher base flood elevations.
 - b. Base flood elevations and designated floodway boundaries on effective FIRMs and in Flood Insurance Studies shall take precedence over base flood elevation and floodway boundaries delineated by Base Level Engineering if the FIRMs and/or Flood Insurance Studies show reduce floodway width and/or lower base flood elevations

10-3-3. Compliance.

~~No structure or land shall hereafter be constructed, located, extended, or altered or have its use changed without full compliance with the terms of this Chapter and other applicable regulations.~~
No structures or developments including buildings, recreation vehicles, or manufactured homes or land shall hereafter be located, altered, or have its use changed without full compliance with the terms of this ordinance and other applicable regulations. Nothing herein shall prevent the City of Orem from taking such lawful action as is necessary to prevent or remedy any violations.

10-3-4. 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 deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

10-3-5. Interpretation.

In the interpretation of this Chapter, all provisions shall be:

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

10-3-6. Warning and Disclaimer of Liability.

~~This Chapter is not intended to and shall not create liability on the part of the City of Orem, any officer or employee thereof, or the Federal Emergency Management Agency for any flood damages that result from reliance on this Chapter or any administrative decision lawfully made thereunder.~~ This chapter shall not create liability on the part of the City of Orem or any official, agent, or employee thereof for any flood damages that result from reliance on this ordinance, or any administrative decision lawfully made thereunder. including, but not limited to, a decision related to the enforcement or non-enforcement of the provisions of this Chapter. This Chapter shall not be construed to create any duties on the part of the City, FEMA or any of the employees and officers of either to any private person or entity. The degree of flood protection required by this Chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. ~~Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes.~~ On rare occasions, greater floods can and will occur and flood heights may be increased by human-made or natural causes. This Chapter does not imply that land outside the areas of special flood hazards or uses permitted within such areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages.

10-3-7. Severability

If any section, provision, or portion of this ordinance is adjudged unconstitutional or invalid by a court, the remainder of the ordinance shall not be affected.

Article 10-4. Administration

Contents:

- 10-4-1. Designation of the Floodplain Administrator
- 10-4-2. Duties & Responsibilities of the Floodplain Administrator
- 10-4-3. Establishment of Development Permit.
- 10-4-4. Permit Review Procedures.
- 10-4-5. Variance Procedures

10-4-1. Designation of Flood Plain Administrator

The ~~Development Services~~ **Community Development** Director or his/her designee is hereby appointed the Floodplain Administrator to implement the provisions of this Chapter and other applicable sections of Title 44 CFR (National Flood Insurance Program Regulations) pertaining to floodplain management.

10-4-2. Flood Plain Administrator

Floodplain Administrator shall:

- A. Maintain and hold open for public inspection all records pertaining to the provisions of this Chapter.
- B. Review permit applications to determine whether proposed building sites, including the placement of manufactured homes, will be reasonably safe from flooding.
- C. Review, approve or deny all applications for development permits required by adoption of this ordinance.
- 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. Where interpretation is needed as to the exact location of the boundaries of the ~~areas of special flood hazards~~ **Special Flood Hazard Areas (SFHA)** (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.
- F. Notify, in riverine situations, adjacent communities and the State Coordinating Agency, which is the Utah Division of Emergency Management, prior to any alteration

- or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.
- G. Assure that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained.
 - H. When base flood elevation data has not been provided, 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 of this ordinance.
 - I. When a regulatory floodway has not been designated, the Floodplain Administrator must require that no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30 and AE on the City'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 foot at any point within the City.
 - J. Under the provisions of 44 CFR Chapter 1, Section 65.12, of the National Flood Insurance Program regulations, a City may approve certain development in Zones A1-30, AE, AH, on the City's FIRM which increases the water surface elevation of the base flood by more than one foot, provided that the City first applies for a conditional FIRM revision through FEMA (Conditional Letter of Map Revision).

10-4-3. Establishment of Development Permit.

- A. A development permit (a preliminary plat, site plan and or building permit as applicable) shall be obtained before construction or development begins within any ~~area of special flood hazard~~ **Special Flood Hazard Areas (SFHA)** established in Section 10-3-2. Application for a development permit shall be made on forms furnished by the City of Orem and may include, but not be limited to:
 - 1. 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 construction of fences, and the location of the foregoing in relation to ~~areas of special flood hazard~~ **Special Flood Hazard Areas (SFHA)** and ~~areas of special erosion hazard~~ **Area of Special Flood-Related Erosion Hazard;**
 - 2. Elevation in relation to mean sea level of the lowest floor (including basement) of all structures;
 - 3. Elevation in relation to mean sea level to which any structure has been floodproofed;

4. Certification by a registered professional engineer or architect that the floodproofing methods for any non-residential structure meet the floodproofing criteria in Section 10-5-2(B); and
 5. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.
- B. A record of all of the above information shall be maintained by the Floodplain Administrator.

10-4-4. Permit Review Procedures.

- A. The Development Review Committee shall review all development permits to determine:
- That the permit requirements of this Chapter have been satisfied.
That all necessary permits have been obtained from those Federal, State or local governmental agencies from which prior approval is required.
If the proposed development adversely affects the flood carrying capacity of the ~~area of special flood hazard~~ Special Flood Hazard Areas (SFHA). For the purposes of this Chapter, "adversely affects" means damage to adjacent properties because of rises in flood stages attributed to physical changes of the channel and the adjacent overbank areas.
- a. If it is determined that there is no adverse effect and the development is not a building, then the permit shall be granted without further consideration.
 - b. If it is determined that there is an adverse effect, then technical justification, such as a registered professional engineer's certification, for the proposed development shall be required.
 - c. If the proposed development is a building, then the provisions of this Chapter shall apply.
- B. When base flood elevation data has not been provided in accordance with Section 10-3-2, the Development Review Committee shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State, or other source as criteria for requiring that new construction, substantial improvements, or other development in Zone A are administered in accordance with Section 10-5-2 of this Chapter.
- C. The following information shall be furnished to the City and kept on file with each development permit:
1. 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 floodproofed structures verification of the actual elevation in relation to mean sea level to which the structure has been floodproofed.
 3. Verification that adjacent communities and the Utah State Coordinator for Emergency Management have been notified prior to any alteration or relocation of a watercourse. Evidence of such notification shall be furnished to the Federal Emergency Management Agency.
- D. The developer shall provide maintenance within the altered or relocated portion of such watercourse, described in subparagraph (3) above, so that the flood carrying capacity is not diminished.
- E. The Development Review Committee shall make interpretations, where needed, as to the exact location of the boundaries of the ~~areas of special flood hazards~~ Special Flood Hazard Areas (SFHA). For example: where there appears to be a conflict between a mapped boundary and actual field conditions.

10-4-5. Variances

The Board of Adjustment shall hear and render judgment on requests for variances from the requirements of this Chapter.

- A. Any person or persons aggrieved by the decision of the Board of Adjustment may appeal such decision to courts of competent jurisdiction.
- B. The Floodplain Administrator shall maintain a record of all actions involving an appeal and shall report variances to the Federal Emergency Management Agency and the State Office of Emergency Management upon issuing a variance.
- C. 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 the relevant factors in section 10-4-3 of this Article have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.
- D. Upon consideration of the factors noted above and the intent of this ordinance, the Board of Adjustment may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this ordinance.
- E. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- F. Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

G. 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.
2. Variances shall only be issued upon:
 - a. showing a 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, the creation of nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
3. Any application to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the 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.

H. Variances may be issued by the Board of Adjustment for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that:

- ~~1. 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.~~ The criteria outlined in 10-4-5 Variances 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.

Article 10-5. Provisions for Flood Hazard Reduction

Contents:

- 10-5-1. General Standards.
- 10-5-2. Specific Standards.
- 10-5-3. Standards for Subdivision Proposal.
- 10-5-4. Standard for Areas of Shallow Flooding (AO/AH Zones).
- 10-5-5. Floodways.
- 10-5-6. Penalties for Violation

10-5-1. General Standards.

General Standards. The following are required for all new construction and substantial improvements in ~~areas of special flood hazards~~ Special Flood Hazard Areas (SFHA).

- A. All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure and resulting from hydrostatic and hydrodynamic loads, including the effect of buoyancy.
- B. All manufactured homes must be elevated and anchored to resist flotation, collapse or lateral movement and capable of resisting the hydrostatic and hydrodynamic loads. 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. Specific requirements may be:
 - 1. Over-the-top ties be provided at each of the four corners of the manufactured home, with two additional ties per side at intermediate locations, with manufactured homes less than fifty feet (50') long requiring one additional tie per side.
 - 2. Frame ties be provided at each corner of the home with five additional ties per side at intermediate points, with manufactured homes less than fifty feet (50') long requiring four additional ties per side.
 - 3. All components of the anchoring system be capable of carrying a force of 4,800 pounds.
 - 4. Any additions to the manufactured home be similarly anchored.
- C. All new construction and substantial improvements shall be constructed:
 - 1. With materials and utility equipment resistant to flood damage.
 - 2. Using methods and practices that minimize flood damage.
 - 3. 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 and elevated to one (1) foot above base flood elevation.
- D. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- E. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters. All new construction shall be required to connect to City's sanitary sewer system.
- F. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

- G. Base flood elevation data shall be provided for subdivision proposals and other proposed development which contain at least fifty (50) lots or five (5) acres, whichever is less. All subdivision proposals shall:
 - 1. Be consistent with the need to minimize flood damage.
 - 2. Have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
 - 3. Have adequate drainage provided to reduce exposure to flood damage.
- H. Encroachments, including fill, new construction, substantial improvements, and other development shall be prohibited in any floodway unless a technical evaluation demonstrates that the encroachments will not result in any increase in flood levels during the occurrence of the base flood discharge. No solid walls, solid fences, or other structures that could disrupt flowing water in an area of special flood hazard shall be constructed in a position or direction contrary to the direction of flowing water.

10-5-2. Specific Standards.

In all ~~areas of special flood hazards~~ Special Flood Hazard Areas (SFHA) where base flood elevation data has been provided as required by this Chapter, the following standards are required:

- A. Residential Construction. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, machinery and equipment, elevated to one foot above the base flood elevation. A registered professional engineer, architect, or land surveyor shall submit a certification to the Floodplain Administrator that the standards of this ordinance are satisfied.
- B. Nonresidential Construction. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor (including basement, machinery and equipment) elevated to the level of one foot above the base flood elevation; or, together with attendant utility and sanitary facilities, shall:
 - 1. Be floodproofed so that one (1) foot above the base flood elevation the structure is watertight with walls substantially impermeable to the passage of water.
 - 2. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
 - 3. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this paragraph. Such certifications shall be provided to the official as set forth in Section

10-4-4(C). A record of such certification which includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed shall be maintained by the Floodplain Administrator.

- C. Enclosed Areas – including enclosures, crawlspaces, subgrade crawlspaces, and attached garages - 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:
1. Automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters.
 2. Flood vents meeting ICC-ES standards may be used with the bottom of all openings no higher than one foot above grade and a minimum of two openings, or
 3. Vents certified by a registered professional engineer or architect must 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.
 4. Enclosures are areas that have a height greater than five feet from the enclosure floor to the finish floor elevation above.
 5. Crawlspaces have at least one side of the crawlspace floor at or above the exterior grade. The crawlspace floor must be less than 5 feet from the finish floor elevation above.
 6. Subgrade crawlspaces have an exterior grade that cannot be more than 2' above crawlspace floor elevation and a finish floor elevation of floor immediately above cannot be more than 5' above the crawlspace floor.
- D. Manufactured Homes -
1. All manufactured homes to be placed within Zone A in the City's FHBM or FIRM shall be installed using methods and practices which minimize flood damage. Manufactured homes in Zone A shall have a lowest floor including mechanicals elevated to one (1) foot above base flood elevation. 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.

2. Manufactured homes that are placed or substantially improved within Zones A1-30, AH, and AE on the City'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 a manufactured home has incurred "substantial damage" as a result of a flood, shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated, including mechanicals, one (1) foot above base flood elevation and shall be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
3. In the A-1-30, AH, AO, and AE Zones, manufactured homes that are placed or substantially improved in an existing manufactured home park shall be elevated so that:
 - i. ~~The lowest floor, including machinery and equipment is elevated one (1) foot above base flood elevation. elevated one (1) foot above the base flood~~The lowest floor, including basement, machinery, utilities, and equipment, is elevated to at least one (1) foot above the Base Flood Elevation (BFE) and shall be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

- E. Recreational Vehicles - Recreational vehicles placed on sites within Zones A1-30, AH, and AE on the City's FIRM shall either:
1. be on the site for fewer than 180 consecutive days and be fully licensed and ready for highway use, or
 2. meet the permit requirements of Section 10-4-2 and the elevation and anchoring requirements for "manufactured homes" of this section.

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.

10-5-3. Standards for Subdivision Proposal.

- A. All subdivision proposals including the placement of manufactured home parks and subdivisions shall be consistent with the provisions of this Chapter 10.

- B. All proposals for the development of subdivisions including the placement of manufactured home parks and subdivisions shall meet the Development Permit requirements of this Chapter 10.
- 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 are greater than 50 lots or 5 acres, whichever is less.
- 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.

10-5-4. Standard for Areas of Shallow Flooding (AO/AH Zones).

Located within the ~~areas of special flood hazards~~ **Special Flood Hazard Areas (SFHA)** established in section 10-3-2, 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 following provisions apply in areas designated as shallow flooding:

- A. All new construction and substantial improvements of residential structures shall have the lowest floor (including basement, machinery and equipment) elevated ~~one (1) foot above the base flood elevation~~ **above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two (2) feet if no depth number is specified), plus a freeboard of one (1) foot.**
- B. All new construction and substantial improvements of non-residential structures; shall:
 - 1. ~~Shall have~~ **Have** the lowest floor (including basement, machinery and equipment) elevated ~~one (1) foot above base flood elevation, or,~~ **above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least 2 feet if no depth number is specified) plus the one (1) foot freeboard height; or**
 - 2. together with attendant utility and sanitary facilities be designed so that ~~one (1) foot above the base flood level,~~ **at the depth number specified on the FIRM plus one (1) foot (measured above the highest adjacent grade),** 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 of effects of buoyancy.

- C. A registered professional engineer shall submit a certification to the Floodplain Administrator that the standards of section 10-4-3 are satisfied.
- D. Require within Zones AH or AO adequate drainage paths around structures on slopes, to guide flood waters around and away from proposed structures.
 - 1. FIRMs may also identify areas of shallow flooding hazards with an average depth less than 1 foot deep (shaded Zone X). These areas may be between the flood hazard boundaries defined for the 1- and 0.2-percent chance-annual-flood or associated with base flood depths less than 1 foot where a clearly defined channel does not exist and where the path of flooding is unpredictable and where velocity may be evident. Such flooding is generally characterized by sheet flow; therefore
 - a. all new construction or substantial improvements of residential and nonresidential structures in such areas shall:
 - i. have the lowest floor (including basement, machinery and equipment) elevated to one (1) foot above base flood elevation.
 - ii. within shaded X zones, have positive ground slopes away from structures and adequate drainage paths around structures on sloping ground to guide flood water around and away from proposed structures.

A registered professional engineer shall submit certification to the Floodplain Administrator that the standards of this Section are satisfied.

10-5-5. Floodways.

Floodways located within ~~areas of special flood hazards~~ Special Flood Hazard Areas (SFHA) established in Article 10-3 are extremely hazardous areas due to the velocity of flood waters which carry debris, potential projectiles and erosion potential.

- A. All new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this Article 10-5. A designated regulatory floodway may not increase the Base Flood level more than 1 foot.
- B. Encroachments are prohibited in floodways, including fill, new construction, substantial improvements and other development within an adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the City during the occurrence of the base flood discharge.

- C. The Floodplain Administrator may, pursuant to the provisions of Title 44 Code of Federal Regulations § 65.12, permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that the City first applies for a conditional FIRM and floodway revision through FEMA.

10-5-6. Substantial Improvement and Substantial Damage Determinations.

For all applications for a development permit to improve, remodel, alter, or repair an existing structure—including repairs for damage from any origin—the Floodplain Administrator shall make a formal determination as to whether the proposed work constitutes a Substantial Improvement or Substantial Damage. In making this determination, the Floodplain Administrator shall apply the following procedures and criteria:

A. Evaluation of Costs. The applicant shall provide a detailed, itemized cost estimate of all proposed work.

1. The total cost of the project shall include the market value of all materials and labor, including volunteered or donated labor, contractor profit, and overhead.
2. The Floodplain Administrator shall evaluate project costs in strict accordance with current FEMA guidelines, including FEMA's Substantial Improvement/Substantial Damage Desk Reference.
3. The Floodplain Administrator shall review and track development permits issued for improvements or repairs to the subject structure over a rolling twelve (12) month period to prevent piecemeal, phased construction from circumventing the fifty percent (50%) threshold.

B. Structure Market Value. The market value of the structure shall be determined before the proposed improvement is started, or if the structure has been damaged, before the damage occurred. The market value shall reflect the value of the structure or building alone, explicitly excluding the value of the land, land engineering, or landscaping. Market value shall be established by one of the following methods:

1. A current independent appraisal performed by a licensed professional appraiser; or
2. The current assessed value of the structure as determined by the Utah County Assessor, adjusted by an equalization factor recommended by the State or County to reflect true market value.

C. Exemptions from Cost. The following costs shall not be counted toward the substantial improvement calculation:

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 a "historic structure," provided that the alteration will not preclude the structure's continued designation as a historic structure.

10-5-7. Stop Work Order.

- A. **Authority.** Whenever the Floodplain Administrator or other community official discovers any work or activity regulated by this ordinance being performed in a manner contrary to the provision of this ordinance, the Floodplain Administrator is authorized to issue a stop work order.
- B. **Issuance.** The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work will be permitted to resume.
- C. **Unlawful continuance.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by local or state law including but not limited to the penalties outlined in Section 10-5-7.

~~10-5-6.~~ 10-5-8. Penalties for Violation Noncompliance.

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this Chapter 10 and other applicable regulations. Violation of any provision of this Chapter 10 (including violations of conditions and safeguards established in connection with conditions) shall constitute a Class C misdemeanor. Nothing contained herein shall prevent the City from taking such other lawful action as is necessary to prevent, or remedy or abate any violation.