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STATE OF ARIZONA

FLOODPLAIN MANAGEMENT

MODEL ORDINANCE

for

Colorado River Communities

June 2023

This Arizona Floodplain Management Model Ordinance has been developed as a tool to help communities along the Colorado River meet the minimum requirements of the National Flood Insurance Program (NFIP). Communities choosing not to use this model Ordinance must ensure theirs meets the minimum requirements of the NFIP and Arizona Revised Statutes (ARS) Title 48, Chapter 21.



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INSTRUCTIONS

The community is to provide community specific information as requested in **[brackets]**.

Please note:

- This model Ordinance contains language from the Arizona Revised Statutes (ARS) and the Code of Federal Regulations (CFR). It is recommended to review this language on an annual basis for any amendments to these provisions.
- Select the ‘Statutory Authorization’ that applies to **{counties or cities or towns}** in Section 1.1 and Section 3.1.
- Definitions marked with an asterisk (*) are cited in A.R.S.§ 48-3601 and/or 44 CFR § 59.1 and must be included in Section 2.0. Definitions not marked with an asterisk are recommended. Additional definitions may be found in Appendix B and on the National Flood Insurance Program (NFIP) website <https://www.fema.gov/national-flood-insurance-program/definitions>. Additional definitions that are applicable locally can be added.
- **Before including the “auto adoption” language in Section 3.2 of this model Ordinance, please consult with the community’s attorney regarding the legality of the language. The phrase “and all subsequent amendments and/or revisions” is intended to allow for all future changes to the community’s Flood Insurance Rate Maps (FIRMs), Flood Insurance Study (FIS), Letters of Map Change (LOMCs), and Physical Map Revisions (PMRs), etc. to be automatically referenced and adopted. IF the “auto adoption” language is not included then the Floodplain Board (i.e., Town/City Council or County Board of Supervisors) will need to adopt by ordinance each FIRM or FIS amendment or revision that occurs.**

NFIP Compliance:

This model Ordinance meets the minimum standards required to participate in the National Flood Insurance Program (NFIP). Any community may exceed the minimum standards by adopting higher standards. ADWR staff is available to assist in this process.

Adoption:

- Prior to adoption, send a draft to the Arizona Department of Water Resources (ADWR) or the Federal Emergency Management Agency (FEMA), Region IX for review and comment.
- After the floodplain management ordinance is adopted, send a copy, certified by the city/town/county clerk, to ADWR and FEMA Region IX. An electronic copy is acceptable.

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Updates to 2023 State Model:

- Updated Accessory Structure definition from FEMA's Floodplain Management Bulletin P-2140, August 2021
- Added definition of Chief Engineer
- Updated Encroachment definition to match FEMA's definition glossary
- Updated Structure definition from FEMA's Floodplain Management Bulletin P-2140, August 2021
- Replaced Abatement of Violations section with Notice of Violations in reference to ARS § 48-3615.01 (A)
- Revised 5.7 Floodways (A) to align with 44 CFR 60.3(d)(3)
- Revised 6.2 Board of Review
- Removed Floodway Fringe definition from Additional Definitions Appendix

The following table of citations is provided as reference only. The citations from CFR and ARS do not need to be included in the Ordinance.

<i>Section</i>	<i>CFR citation</i>	<i>ARS citation</i>
1.1	44 CFR § 59.22(a)(2)	ARS § 48-3603, 3609, 3610
1.2	44 CFR § 59.22(a)(1)	
1.3	44 CFR § 59.22(a)(1)	
1.4		
2.0	44 CFR § 59.1	ARS § 48-3601
3.1		ARS § 48-3602, 3610, 3603
3.2	44 CFR § 60.2(h)	ARS § 48-3605(A)
3.3		ARS § 48-3609(A)
3.4	44 CFR § 60.1(b)	
3.5		
3.6		ARS § 48-3603(4)
3.7		ARS § 48-3609(I), 3613(B), (C), (D)
3.8		ARS § 48-3615
3.9		ARS § 48-3615.01(A)
3.10		ARS § 48-3614
3.11		
4.1	44 CFR § 59.22(b)(2)	ARS § 48-3603(C)(14)
4.2	44 CFR § 60.3(a), (b), (c)	ARS § 48-3609(B), (G), (L)
4.2.1	44 CFR § 60.3(a)(2), (a)(3), (c)(10)	ARS § 48-3601, 3609(B)(3)
4.2.2	44 CFR § 59.1, 60.3(c)(2), (c)(3)	
4.2.3	44 CFR § 60.3(b)(4)	ARS § 48-3609(A)
4.2.4	44 CFR § 60.3(b)(5)	
4.2.5	44 CFR § 59.22(a)(9)(v), 60.3(b)(6), (b)(7), 65.3	ARS § 48-3609(I), 48-3609(J), 3610(B)(1), (2), 3613(A)
4.2.6		ARS § 48-3612(A)(1)
4.2.7		ARS § 48-3603, 3615, 3626
4.3	44 CFR § 60.3(a)(1), (b)(1), (b)(3)	
5.1	44 CFR § 60.3(a), (b), (c), (d)	ARS48-3601, 3609(B)(2), (B)(4), (B)(5), (C), (D)
5.2		
5.3	44 CFR § 60.3(a)(5), (a)(6)	ARS § 48-3609(D), (E)
5.4	44 CFR § 60.3(a)(4), (b)(3)	
5.5	44 CFR § 60.3(b)(8), (c)(6)	ARS § 48-3609(B)(5), (6)
5.6	44 CFR § 60.3(c)(14)	
5.7	44 CFR § 60.3(d)(3)	
6.0	44 CFR § 60.6	ARS § 48-3603(C)(16), 3609(B)(7), 3612
7.0	Public Law 99-450, Colorado River Floodway Act	

SECTION 1.0
STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE, AND METHODS

1.1 STATUTORY AUTHORIZATION

Note to User

Select the appropriate paragraph depending on whether the community is a county or a city/town:

In A.R.S. §§ 48-3601 through 48-3628, the Arizona State Legislature has delegated the responsibility to each county flood control district to adopt floodplain management regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the Flood Control District of **{County}**, Arizona, does ordain as follows:

In A.R.S. § 48-3610, the Arizona State Legislature enabled the **{City or Town}** to assume the powers and duties for floodplain management and adopt regulations in conformance with A.R.S. § 48-3609 designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the **{City Council, Town Council}** of **{City or Town}**, Arizona, does ordain as follows:

1.2 FINDINGS OF FACT

- A. The Special Flood Hazard Areas of **{County or Municipality}** are subject to periodic inundation which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
- B. These flood losses may be caused by the cumulative effect of obstructions in Special Flood Hazard Areas which increase flood heights and velocities and, when inadequately anchored, cause damage in other areas. Uses that are inadequately flood proofed, elevated, or otherwise protected from flood damage also contribute to flood loss.

1.3 STATEMENT OF PURPOSE

It is the purpose of this Ordinance to promote 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. Protect human life and health;
- B. Minimize expenditure of public money for costly flood control projects;
- C. Minimize the need for rescue and relief efforts associated with flooding generally undertaken at the expense of the public;
- D. Minimize prolonged business interruptions;
- E. Minimize damage to public facilities and utilities such as water mains, gas mains, electric lines, telephone lines, sewer lines, streets, and bridges located in Special Flood Hazard Areas;
- F. Help maintain a stable tax base by providing for the sound use and development of Special Flood Hazard Areas so as to minimize blight areas caused by flooding;
- G. Participate in and maintain eligibility for flood insurance and disaster relief.

1.4 METHODS OF REDUCING FLOOD LOSSES

In order to accomplish its purposes, this Ordinance includes methods and provisions to:

- A. Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards which result in damaging increases in erosion, flood heights, or velocities;
- B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against

flood damage at the time of initial construction;

- C.** Control the alteration of natural floodplains, stream channels, and natural protective barriers which help accommodate or channel floodwaters;
- D.** Control filling, grading, dredging, and other development which may increase flood damage; and
- E.** Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

SECTION 2.0 **DEFINITIONS**

Note to User

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

Definitions marked with an asterisk () are cited in A.R.S. § 48-3601 and/or 44 CFR § 59.1 and must be included in Section 2.0. Definitions not marked with an asterisk are recommended. Additional definitions may be found in Appendix B and on the National Flood Insurance Program (NFIP) website <https://www.fema.gov/national-flood-insurance-program/definitions>. Additional definitions that are applicable locally can be added.*

Accessory structure: For floodplain management purposes, accessory structures are structures that are on the same parcel of property as a principal structure, the use of which is incidental to the use of the principal structure. Accessory structures must be used for parking or storage, be small and represent a minimal investment by owners, and have low damage potential. FEMA considers “small” to mean not larger than a one-story two-car garage. Examples of small accessory structures include, but are not limited to, detached garages, storage and tool sheds, and small boathouses.

- Structure Size - The footprint of a typical two-car garage is about 600 square feet in area.
- Storage - Contents stored in wet floodproofed structures will get wet during flooding.

Note to User

Citation for this definition:

FEMA. 2021. FEMA P-2140. Floodplain Management Requirements for Agricultural Structures and Accessory Structures. Version 1.1. Available at https://www.fema.gov/sites/default/files/documents/fema_agricultural-and-accessory-structures_8132021.pdf

Appeal: A request for a review of the Floodplain Administrator's interpretation of any provision of this Ordinance or a request for a variance.

***Area of shallow flooding:** A designated Zone AO, AH, AR/AO, or AR/AH on a community’s Flood Insurance Rate Map (FIRM) with a one percent 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.

***Base flood:** A flood which has a one percent chance of being equaled or exceeded in any given year.

Base Flood Elevation (BFE): The computed elevation to which floodwater is anticipated to rise during the base flood.

***Basement:** Any area of the building having its floor sub-grade - i.e., below ground level - on all sides.

***Building:** See "Structure."

Chief Engineer: See “Floodplain Administrator”

***Colorado River Base Flood Elevation.** The flood elevation having a one percent chance of being equaled or exceeded in any given year or a flow of forty thousand cubic feet per second (cfs), whichever is greater.

***Colorado River Floodplain.** The combined area of the Colorado River Floodway and the Colorado River Floodway Fringe.

***Colorado River Floodway.** The channel of the Colorado River and that part of the floodplain that are necessary to safely convey the floodway flow of either a one in one hundred year flow consisting of controlled releases and tributary inflow, or a flow of forty thousand cubic feet per second (cfs), whichever is greater.

***Colorado River Floodway Fringe.** That area subject to inundation by floods of varying magnitudes, up to and including the floodway flow, but which is not required for the safe conveyance of the floodway flow and is not included in the computation of the Colorado River Floodway base flood elevation.

***Community:** Any state or area or political subdivision thereof, or any Indian tribe or authorized tribal organization, or authorized native organization, which has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction.

***Development:** Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

Elevation Certificate: An administrative tool of the National Flood Insurance Program (NFIP) that is used to provide elevation information necessary to ensure compliance with community floodplain management ordinance, to determine the proper insurance premium rate, and to support a request for a Letter of Map Amendment (LOMA) or Letter of Map Revision based on fill (LOMR-F).

Encroachment: Encroachments are activities or construction within the floodway including fill, new construction, substantial improvements, and other development. These activities are prohibited within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses that the proposed encroachment would not result in any increase in flood levels.

Note to User

Citation for this definition:

Encroachment. Available at

<https://www.fema.gov/glossary/encroachments#:~:text=Encroachments%20are%20activities%20or%20construction,%20substantial%20improvements%2C%20and%20other%20development>

Erosion: The process of the gradual wearing away of landmasses. This peril is not, per se, covered under the National Flood Insurance Program.

***Flood or flooding:** A general and temporary condition of partial or complete inundation of normally dry land areas from: (1) the overflow of floodwaters; (2) the unusual and rapid accumulation or runoff of surface waters from any source; and/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 definition.

***Flood Insurance Rate Map (FIRM):** The official map of a community, on which the Federal Emergency Management Agency has delineated both the Special Flood Hazard Areas and the risk premium zones applicable to the community.

***Flood Insurance Study (FIS):** The official report provided by the Federal Emergency Management Agency that includes flood profiles, Flood Insurance Rate Maps, and the water surface elevation of the base flood.

***Floodplain or flood-prone area:** Any land area susceptible to being inundated by water from any source. See "Flood or flooding."

Floodplain Administrator: The community official designated by title to administer and enforce the floodplain management regulations.

Floodplain Board: The Board of Directors of the Flood Control District of **{Governing}** County, or the **{City, Town}** Council of **{Governing Body}**, at such times as they are engaged in the enforcement of this Ordinance. (Floodplain Board as defined in A.R.S. §48-3601 for counties.)

***Floodplain management:** The operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including but not limited to emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

***Floodplain management regulations:** This Ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as grading and erosion control), and other

application of police power which control development in flood-prone areas. This term describes federal, state or local regulations in any combination thereof, which provide standards for preventing and reducing flood loss and damage.

***Floodproofing:** Any combination of structural and nonstructural additions, changes, or adjustments to nonresidential structures which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents by means other than elevation.

***Flood-related erosion:** The collapse or subsidence of land along the shore of a lake or other body of water as a result of 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 a flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding.

***Floodway:** 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. Also referred to as "Regulatory Floodway."

***Functionally dependent use:** 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, and does not include long-term storage or related manufacturing facilities.

Governing body: The local governing unit that is empowered to adopt and implement regulations to provide for the public health, safety, and general welfare of its citizenry.

Hardship: As related to **Section 6.0 {or the numbering system used by the community}** of this Ordinance. The **{community governing body}** requires that the hardship be exceptional, unusual, and peculiar to the property involved. Mere economic or financial hardship alone is not exceptional. Inconvenience, aesthetic considerations, physical handicaps, personal preferences, or the disapproval of one's neighbors likewise cannot, as a rule, qualify as an exceptional hardship. All of these problems can be resolved through other means without granting a variance, even if the alternative is more expensive or requires the property owner to build elsewhere or put the parcel to a different use than originally intended.

***Highest Adjacent Grade (HAG):** The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

***Historic structure:** 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.

***Lowest floor:** The lowest floor of the lowest enclosed area including the basement, see "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 this Ordinance.

***Manufactured Home:** 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 attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle."

***Manufactured Home park or subdivision:** A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Market value: Replacement cost of a structure less depreciation since construction.

***Mean sea level:** 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.

***New construction:** For the purposes of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial Flood Insurance Rate Map 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 a community and includes any subsequent improvements to such structures.

Obstruction: Including, but not limited to, any dam, wall, wharf, embankment, levee, dike, pile, abutment, protection, excavation, channelization, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure, vegetation, or other material in, along, across, or projecting into any watercourse which may alter, impede, retard, or change the direction and/or velocity of the flow of water, or due to its location, its propensity to snare or collect debris carried by the flow of water, or its likelihood of being carried downstream.

***One-hundred-year flood or 100-year flood:** A common name for the flood having a one percent chance of being equaled or exceeded in any given year. See "Base flood."

***Person:** An individual or the individual's agent, a firm, partnership, association, corporation, or an agent of the aforementioned groups, or this state, its agencies, or political subdivisions.

***Recreational Vehicle:** A vehicle which is:

1. Built on a single chassis;
2. 400 square feet or less when measured at the largest horizontal projection;
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.

***Regulatory Flood Elevation (RFE):** An elevation one foot above the Base Flood Elevation.

***Regulatory floodway:** 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: Relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

***Special Flood Hazard Area:** An area in the floodplain subject to a 1 percent or greater chance of flooding in any given year. It is shown on a Flood Insurance Rate Map as Zone A, AO, AE, AH, AR, or A99.

***Start of construction:** Includes substantial improvement and other proposed new development and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days from the date of the permit. 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, 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:** For floodplain management purposes, a structure is a walled and roofed building that is principally above ground, where walled is considered “two or more outside rigid walls” and roofed is “a fully secured roof.” The term includes gas and liquid storage tanks and manufactured homes. The terms “structure” and “building” are used interchangeably in the NFIP regulations and this bulletin. Floodplain managers must use professional judgement to determine which proposed development projects are “walled and roofed,” and thus regulated as structures, and which proposed projects are regulated as development.

Note to User

Citation for this definition:

FEMA. 2021. FEMA P-2140. Floodplain Management Requirements for Agricultural Structures and Accessory Structures. Version 1.1. Available at https://www.fema.gov/sites/default/files/documents/fema_agricultural-and-accessory-structures_8132021.pdf

***Substantial Damage:** 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 before the damage occurred.

***Substantial Improvement:** Any reconstruction, rehabilitation, addition, or other improvement to a structure, the total 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:

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".

***Variance:** A grant of relief from the requirements of this Ordinance which permits construction or other uses of property in a manner that would otherwise be prohibited by this Ordinance.

***Violation:** 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 this Ordinance is presumed to be in violation until such time as that documentation is provided.

***Water surface elevation:** The height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, or other datum, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

***Watercourse:** A lake, river, creek, stream, wash, arroyo, channel, or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

Zone A: No Base Flood Elevations determined.

Zone AE: Base Flood Elevations determined.

Zone AH: Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

Zone AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

Zone AR: Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

Zone A99: Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

Zone D: Areas in which flood hazards are undetermined, but possible.

Zone X (unshaded): Areas determined to be outside the 0.2% annual chance floodplain.

Zone X (shaded): Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

SECTION 3.0
GENERAL PROVISIONS

3.1 LANDS TO WHICH THIS ORDINANCE APPLIES

Note to User

Select the appropriate paragraph depending on whether the community is a county or a city/town:

As applied to Counties.

This Ordinance shall apply to all Special Flood Hazard Areas within the boundaries of **{County}** except those incorporated cities and towns which have adopted a resolution that it intends to assume the powers and duties of floodplain management.

As applied to Cities and Towns.

This Ordinance shall apply to all Special Flood Hazard Areas within the corporate limits of **{City or Town}**.

3.2 BASIS FOR ESTABLISHING SPECIAL FLOOD HAZARD AREAS

The Special Flood Hazard Areas identified by the Federal Emergency Management Agency in a scientific and engineering report entitled “The Flood Insurance Study (FIS) for **{exact title of study}** dated **{date}**, with accompanying Flood Insurance Rate Maps (FIRMs dated **{date}**), and the area of the Colorado River mapped by the U.S. Department of the Interior, Bureau of Reclamation and subject to provisions of Public Law 99-450, Colorado River Floodway Act, and all subsequent amendments and/or revisions, are hereby adopted by reference and declared to be a part of this Ordinance. This FIS and attendant mapping is the minimum area of applicability of this Ordinance and may be supplemented by studies for other areas which allow implementation of this Ordinance and which are recommended to the Floodplain Board by the Floodplain Administrator. The Floodplain Board, within its area of jurisdiction, shall delineate (or may, by rule, require developers of land to delineate) for areas where development is ongoing or imminent, and thereafter as development becomes imminent, floodplains consistent with the criteria developed by the Federal Emergency Management Agency and the Director of the Arizona Department of Water Resources. The FIS and FIRM panels are on file at **{list the address or the building, i.e., County Administration Building, Department of Planning, Public Works etc.}**.

3.3 COMPLIANCE

All development of land, construction of residential, commercial, or industrial structures, or future development within delineated floodplains is subject to the terms of this Ordinance and other applicable regulations.

3.4 ABROGATION AND GREATER RESTRICTIONS

This Ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this Ordinance and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

3.5 INTERPRETATION

In the interpretation and application of this Ordinance, 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.

3.6 DISCLAIMER OF LIABILITY

The degree of flood protection required by this Ordinance 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. This Ordinance 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. This Ordinance shall not create liability on the part of the **{governing body}**, any officer or employee thereof,

the State of Arizona, or the Federal Emergency Management Agency, for any flood damages that result from reliance on this Ordinance or any administrative decision lawfully made hereunder.

3.7 STATUTORY EXCEPTIONS

- A.** In accordance with A.R.S. § 48-3609(I), unless expressly provided, this and any regulation adopted pursuant to this article does not affect:
1. Existing legal uses of property or the right to continuation of such legal use. However, if a nonconforming use of land or a building or structure is discontinued for twelve months, or destroyed to the extent of 50 percent of its market value, as determined by a competent appraiser, any further use shall comply with this article and regulations of the **{governing body}**;
 2. Reasonable repair or alteration of property for the purposes for which the property was legally used on August 3, 1984, or on the date any regulations affecting such property takes effect, except that any alteration, addition, or repair to a nonconforming building or structure which would result in increasing its flood damage potential by 50 percent or more shall be either floodproofed or elevated to or above the Regulatory Flood Elevation;
 3. Reasonable repair of structures constructed with the written authorization required by A.R.S. § 48-3613;
 4. Facilities constructed or installed pursuant to a Certificate of Environmental Compatibility issued pursuant to A.R.S. Title 40, Chapter 2, Article 6.2; and
- B.** Before the following types of construction authorized by A.R.S. § 48-3613(B) begin, the responsible person must submit plans for the construction to the Floodplain Board for review and comment pursuant to A.R.S. § 48-3613(C):
1. The construction of bridges, culverts, dikes, and other structures necessary for the construction of public highways, roads, and streets intersecting or crossing a watercourse;
 2. The construction of storage dams for watering livestock or wildlife, structures on banks of a watercourse to prevent erosion of or damage to adjoining land if the structure will not divert, retard, or obstruct the natural channel of the watercourse or dams for the conservation of floodwaters as permitted by A.R.S. Title 45, Chapter 6;
 3. Construction of tailing dams and waste disposal areas for use in connection with mining and metallurgical operations. This paragraph does not exempt those sand and gravel operations that will divert, retard, or obstruct the flow of waters in any watercourse from complying with and acquiring authorization from the Floodplain Board pursuant to regulations adopted by the Floodplain Board under this article;
 4. Other construction upon determination by the Floodplain Board that written authorization is unnecessary;
 5. Any flood control district, county, city, town, or other political subdivision from exercising powers granted to it under A.R.S. Title 48, Chapter 21, Article 1;
 6. The construction of streams, waterways, lakes, and other auxiliary facilities in conjunction with development of public parks and recreation facilities by a public agency or political subdivision; and
 7. The construction and erection of poles, towers, foundations, support structures, guy wires, and other facilities related to power transmission as constructed by any utility whether a public service corporation or a political subdivision.
- C.** In accordance with A.R.S. § 48-3613(D), in addition to other penalties or remedies otherwise provided by law, this state, a political subdivision or a person who may be damaged or has been damaged as a result of the unauthorized diversion, retardation, or obstruction of a watercourse has the right to commence,

maintain, and prosecute any appropriate action or pursue any remedy to enjoin, abate, or otherwise prevent any person from violating or continuing to violate this section or regulations adopted pursuant to A.R.S. Title 48, Chapter 21, Article 1. If a person is found to be in violation of this Section, the court shall require the violator to either comply with this Section if authorized by the Floodplain Board or remove the obstruction and restore the watercourse to its original state. The court may also award such monetary damages as are appropriate to the injured parties resulting from the violation including reasonable costs and attorney fees.

3.8 VIOLATIONS

- A. It is unlawful for a person to engage in any development or to divert, retard, or obstruct the flow of waters in a watercourse if it creates a hazard to life or property without securing the written authorization required by A.R.S. § 48-3613. Where the watercourse is a delineated floodplain, it is unlawful to engage in any development affecting the flow of waters without securing written authorization required by A.R.S. § 48-3613.
- B. A person who violates Section 3.8A **{or the numbering system used by the community}** is guilty of a class 2 misdemeanor.
- C. A person who violates this Ordinance may be assessed a civil penalty not to exceed the fine chargeable for a class 2 misdemeanor or, by agreement with the person in violation, a non-monetary penalty that serves the purposes of the community. Each day the violation continues constitutes a separate violation.
- D. A person who without written authorization damages or interferes with a facility that is owned, operated, or otherwise under the jurisdiction of the community is liable for both of the following:
 - 1. Any actual damages to persons or property that is caused by the damage or interference.
 - 2. Payment of costs to the community for remediating the damage or interference.

3.9 NOTICE OF VIOLATIONS

If the Chief Engineer finds that a person has engaged or is engaging in development in the floodplain without a floodplain use permit, has engaged or is engaging in any development that is not in compliance with an active floodplain use permit or has damaged or interfered with facilities that are authorized pursuant to A.R.S. Title 48, Chapter 21 without written authorization of the Floodplain Board, the Chief Engineer shall issue a notice of violation to the owner, occupant or manager of the real property on which the development is located or to the person who has damaged or interfered with the facilities. The notice of violation shall identify the violations observed and order the violator to cease and desist any ongoing activity that is not in compliance with the regulations adopted pursuant to this chapter or cease and desist any damage or interference that is not authorized by the Board. The notice of violation shall include the date and time by which the person must mail or deliver a response to the notice of violation.

3.10 DECLARATION OF PUBLIC NUISANCE

All development located or maintained within any Special Flood Hazard Area since August 8, 1973, in violation of floodplain regulations established by the Board and without written authorization from the Board is a public nuisance per se and may be abated, prevented, or restrained by action of this state or any of its political subdivisions.

3.11 SEVERABILITY

This Ordinance and the various parts thereof are hereby declared to be severable. Should any Section of this Ordinance be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of this Ordinance as a whole or any portion thereof other than the Section so declared to be unconstitutional or invalid.

SECTION 4.0
ADMINISTRATION

4.1 DESIGNATION OF THE FLOODPLAIN ADMINISTRATOR

The **{job title}** is hereby designated to administer, implement, and enforce this Ordinance by granting or denying development permits in accordance with its provisions.

4.2 DUTIES AND RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR

Duties of the Floodplain Administrator shall include, but not be limited to:

4.2.1 PERMIT REVIEW

Review all development permits to determine that:

- A. The permit requirements of this Ordinance have been satisfied;
- B. All other required state and federal permits have been obtained;
- C. The site is reasonably safe from flooding;
- D. In areas where a floodway has not been designated, the proposed development does not adversely affect the carrying capacity of areas where Base Flood Elevations have been determined.

For the purposes of this Ordinance, "adversely affect" means 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.

4.2.2 SUBSTANTIAL IMPROVEMENT AND SUBSTANTIAL DAMAGE ASSESSMENTS

Review all development permits for improvements and/or damages to existing structures to determine if the application of the substantial improvement rules apply, including establishing a definition of market value determination and verifying that the estimated improvement and/or repair costs are less than 50% of the market value of the structure.

4.2.3 USE OF OTHER BASE FLOOD DATA

When Base Flood Elevation data has not been provided in accordance with Section **3.2 {or the numbering system used by the community}**, the Floodplain Administrator shall obtain, review, and reasonably utilize any Base Flood Elevation data available from a federal, state, or other source, in order to administer Section **5.0 {or the numbering system used by the community}**. Any such information shall be consistent with the requirements of the Federal Emergency Management Agency and the Director of the Arizona Department of Water Resources and may be submitted to the Floodplain Board for adoption.

4.2.4 OBTAIN AND MAINTAIN FOR PUBLIC INSPECTION

Obtain and maintain the following for public inspection and make available as needed:

- A. Certification required by Section **5.1.3.1** and Section **5.5 {or the numbering system used by the community}** (lowest floor elevations, bottom of the structural frame, and utilities);
- B. Certification required by Section **5.1.3.2 {or the numbering system used by the community}** (lowest floor elevations or floodproofing of nonresidential structures and utilities);
- C. Certification required by Section **5.1.3.5 {or the numbering system used by the community}** (flood vents);

- D. Certification of elevation required by Section **5.4.A.2. {or the numbering system used by the community}** (subdivisions and other proposed development standards);
- E. Certification required by Section **5.7.A {or the numbering system used by the community}** (floodway encroachments);
- F. Records of all variance actions, including justification for their issuance.
- G. Obtain and maintain improvement and damage calculations required in Section **4.2.2 {or the numbering system used by the community}**

4.2.5 NOTIFICATION TO OTHER ENTITIES

- A. Whenever a watercourse is to be altered or relocated:
 - 1. Notify adjacent communities and the Arizona Department of Water Resources prior to such alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency through appropriate notification means; and
 - 2. Assure that the flood carrying capacity of the altered or relocated portion of said watercourse be maintained.
- B. Base Flood Elevation and rate of flow due to physical alterations:
 - 1. Base Flood Elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, the Floodplain Administrator shall notify the Federal Emergency Management Agency of the changes by submitting technical or scientific data in accordance with Volume 44 Code of Federal Regulations Section 65.3. Such a submission is necessary so that upon confirmation of those physical changes affecting flooding conditions risk premium rates and floodplain management requirements will be based upon current data.
 - 2. Within one hundred twenty (120) days after completion of construction of any flood control protective works which changes the rate of flow during the base flood or the configuration of the floodplain upstream or downstream from or adjacent to the project, the person or agency responsible for installation of the project shall provide to the governing bodies of all jurisdictions affected by the project a new delineation of all floodplains affected by the project. The new delineation shall be done according to the criteria adopted by the Director of the Arizona Department of Water Resources.
- C. Corporate Boundary Changes:

Notify the Federal Emergency Management Agency of acquisition by means of annexation, incorporation, or otherwise of additional areas of jurisdiction.

4.2.6 MAP DETERMINATIONS

Make interpretations, where needed, as to the exact location of the boundaries of the Special Flood Hazard Area (e.g., 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 Section **6.0 {or the numbering system used by the community}**.

4.2.7 REMEDIAL ACTIONS

Take actions on violations of this Ordinance as required in Section **3.9 {or the numbering system used by the community}** herein.

4.3 ESTABLISHMENT OF DEVELOPMENT PERMIT

A development permit shall be obtained before construction or development begins, including placement of manufactured homes, within any Special Flood Hazard Area established in Section **3.2 {or the numbering system used by the community}**. Application for a development permit shall be made on 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 elevation 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. Proposed elevation in relation to mean sea level of the lowest floor (including basement) of all structures. In Zone AO, elevation of existing highest adjacent grade and proposed elevation of lowest floor of all structures;
- B. Proposed elevation in relation to mean sea level to which any non-residential structure will be floodproofed;
- C. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in Section **5.1.3.2 {or the numbering system used by the community}**;
- D. Base Flood Elevation data for subdivision proposals or other development greater than 50 lots or 5 acres, whichever is the lesser; and
- E. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

SECTION 5.0
PROVISIONS FOR FLOOD HAZARD REDUCTION

5.1 STANDARDS OF CONSTRUCTION

In all Special Flood Hazard Areas, the following standards are required:

5.1.1 Anchoring

- A. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads including the effects of buoyancy; and
- B. All manufactured homes shall meet the anchoring standards of Section **5.5.B {or the numbering system used by the community}**.

5.1.2 Construction Materials and Methods

- A. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
- B. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage; and
- C. Within Zones AH or AO, adequate drainage paths shall be constructed around structures on slopes to guide floodwaters around and away from proposed structures.

5.1.3 Elevation and Floodproofing

5.1.3.1 Residential Construction

Residential construction, new, or substantial improvement, shall have the lowest floor, including basement, elevated to or above the Regulatory Flood Elevation.

- A. In a Zone AO, the Base Flood Elevation is determined from the FIRM panel. If unspecified, the required elevation is at minimum two (2) feet above highest adjacent grade.
- B. In a Zone A where the Base Flood Elevation has not been determined, the Base Flood Elevation is determined locally by the criteria set out in Section **4.2.3 {or the numbering system used by the community}**.
- C. In Zones AE and AH, the Base Flood Elevation is determined from the FIS and/or FIRM.
- D. A garage attached to a residential structure, constructed with the garage floor slab below the Regulatory Flood Elevation, must be designed to allow for the automatic entry and exit of flood waters and must be used solely for parking, access and/or storage. See Section **5.1.3.5 {or the numbering system used by the community}**.

Upon completion of the structure, certification by a registered professional engineer or surveyor that the elevation requirements of the lowest floor, including basement, of this section have been satisfied shall be provided to the Floodplain Administrator for verification.

5.1.3.2 Nonresidential Construction (Commercial Construction or Industrial Construction)

Nonresidential construction, new, or substantial improvement, shall have the lowest floor either elevated to conform with Section **5.1.3.1(A), (B), or (C) as appropriate {or the numbering system used by the community}**,

Or, together with attendant utility and sanitary facilities,

- A. Be floodproofed below the elevation recommended under Section **5.1.3.1(A), (B), or (C) as appropriate {or the numbering system used by the community}** so that the structure is watertight with walls substantially impermeable to the passage of water; and
- B. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

Upon completion of the structure, certification by a registered professional engineer or surveyor that the elevation requirements of the lowest floor, including basement, of this section have been satisfied shall be provided to the Floodplain Administrator for verification; **or** certification by a registered professional engineer or architect that the floodproofing standards of this section are satisfied shall be provided to the Floodplain Administrator for verification.

5.1.3.3 Manufactured Homes

Manufactured homes shall meet the standards in Section **5.5 {or the numbering system used by the community}**.

5.1.3.4 Accessory Structures (Detached Garages & Storage Structures)

Accessory structures used solely for parking of vehicles or storage may be constructed such that the floor is below the Regulatory Flood Elevation, provided the structure is designed and constructed in accordance with the following requirements:

- A. Use of the accessory structure must be limited to parking of vehicles or storage;
- B. The portions of the accessory structure located below the Regulatory Flood Elevation must be built using flood resistant materials;
- C. The accessory structure must be adequately anchored to prevent flotation, collapse, and lateral movement;
- D. Any machinery or equipment servicing the accessory structure must be elevated or floodproofed to or above the Regulatory Flood Elevation;
- E. The accessory structure must comply with floodway encroachment provisions in Section 5.7 **{or the numbering system used by the community}**; and
- F. The accessory structure must be designed to allow for the automatic entry and exit of flood waters in accordance with Section **5.1.3.5 {or the numbering system used by the community}**.

Detached garages, storage structures, and other accessory structures not meeting the above standards must be constructed in accordance with all applicable standards in Section **5.1.3.1(A), (B), or (C) as appropriate {or the numbering system used by the community}**.

Upon completion of the structure, certification by a registered professional engineer or

surveyor that the requirements of this section have been satisfied shall be provided to the Floodplain Administrator for verification.

5.1.3.5 Flood Openings

All new construction and substantial improvement with fully enclosed areas below the lowest floor (excluding basements) that are usable solely for parking of vehicles, building access, or storage, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater. Designs for meeting this requirement must meet or exceed the following criteria:

- A. For non-engineered openings:
 - 1. Have a minimum of two openings, on different sides of each enclosed area, having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
 - 2. The bottom of all openings shall be no higher than one-foot above grade;
 - 3. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwater; or
- B. For engineered openings:
 - 1. Engineered openings (or covers and devices) that are specifically designed and certified by a registered engineer or architect as meeting the required performance and design requirements.
 - 2. Engineered openings (or covers and devices) for which an Evaluation Report has been issued by the International Code Council (ICC) Evaluation Service, Inc. (ICC-ES), a subsidiary of the International Code Council, Inc.

5.1.3.6 Machinery and Service Equipment

All new construction, substantial improvement, and other proposed new development shall be constructed with electrical, heating, ventilation, plumbing, 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.

5.2 STANDARDS FOR STORAGE OF MATERIALS AND EQUIPMENT

- A. The storage or processing of materials that could be injurious to human, animal, or plant life if released due to damage from flooding is prohibited in Special Flood Hazard Areas.
- B. Storage of other material or equipment may be allowed if not subject to damage by floods and if firmly anchored to prevent flotation or if readily removable from the area within the time available after flood warning

5.3 STANDARDS FOR WATER SUPPLY AND WASTE DISPOSAL SYSTEMS

- A. All new or replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from systems into flood waters.
- B. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

- C. Waste disposal systems shall not be installed wholly or partially in a regulatory floodway.

5.4 ADDITIONAL DEVELOPMENT STANDARDS, INCLUDING SUBDIVISIONS

- A. All new subdivision proposals and other proposed development (including proposals for manufactured home parks and subdivisions), greater than 50 lots or 5 acres, whichever is the lesser, shall:
 - 1. Identify the Special Flood Hazard Area and the Base Flood Elevation; and
 - 2. Identify on the final plans the elevation(s) of the proposed structure(s) and pads. If the site is filled above the Base Flood Elevation, the lowest floor and finished grade elevations shall be certified by a registered professional engineer or surveyor and provided to the Floodplain Administrator.
- B. All subdivision proposals and other proposed development shall be consistent with the need to minimize flood damage.
- C. All subdivision proposals and other proposed development shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
- D. All subdivision proposals and other proposed development shall provide adequate drainage to reduce exposure to flood hazards.

5.5 STANDARDS FOR MANUFACTURED HOMES

All manufactured homes that are placed on site or substantially improved shall:

- A. Be elevated to conform with Section **5.1.3.1(A), (B), or (C) as appropriate {or the numbering system used by the community}** so that the bottom of the structural frame or the lowest point of any attached appliances, whichever is lower, is at or above the Regulatory Flood Elevation; and
- B. Be securely anchored to an adequately anchored foundation system to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not to be limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.

Upon completion of installation of the manufactured home, certification by a registered professional engineer or surveyor that the elevation requirements of this section have been satisfied shall be provided to the Floodplain Administrator for verification.

5.6 STANDARDS FOR RECREATIONAL VEHICLES

All Recreational Vehicles placed on site shall:

- A. Be on site for fewer than 180 consecutive days,
- B. Be fully licensed and ready for highway use. A Recreational Vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or
- C. Meet the permit requirements of Section **4.0 {or the numbering system used by the community}** of this Ordinance and the elevation and anchoring requirements for manufactured homes in Section **5.5 {or the numbering system used by the community}**.

5.7 FLOODWAYS

Located within the Special Flood Hazard Areas established in Section **3.2 {or the numbering system used by the community}** are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris and potential projectiles and can potentially cause erosion, the

following provisions apply:

- A. Prohibit encroachments 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 in accordance with standard engineering practice that the proposed encroachment shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- B. If Section **5.7 {or the numbering system used by the community}** is satisfied, all new construction and substantial improvements shall comply with all other applicable flood hazard reduction provisions of Section **5.0 {or the numbering system used by the community}**.

SECTION 6.0
VARIANCE PROCEDURE

6.1 NATURE OF VARIANCES

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

It is the duty of the **{governing body}** to help protect its citizens from flooding. This need is so compelling and the implications of the cost of insuring a structure built below the Regulatory Flood Elevation are so serious that variances from the flood elevation or from other requirements in this Ordinance are quite rare. The long-term goal of preventing and reducing flood loss and damage can only be met if variances are strictly limited. Therefore, the variance guidelines provided in this Ordinance are more detailed and contain multiple provisions that must be met before a variance can be properly granted. The criteria are designed to screen out those situations in which alternatives other than a variance are more appropriate.

6.2 BOARD OF REVIEW

Note to User: The Floodplain Board may establish a Board of Review, which may be the Advisory Board or a committee of the Advisory Board to sit in review and make decisions as follows. Select the appropriate entity depending on whether your community has established a Board of Review or not:

- A. The **{Floodplain Board or Board of Review}** shall hear and decide appeals 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 Ordinance.

- B. In considering such applications, the **{Floodplain Board or Board of Review}** shall consider all technical evaluations, relevant factors, standards specified in other sections of this Ordinance, and:
 - 1. The danger that materials may be swept onto other lands to the injury of others;
 - 2. The danger of life and property due to flooding or erosion damage;
 - 3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - 4. The importance of the services provided by the proposed facility to the community;
 - 5. The necessity to the facility of a waterfront location, where applicable;
 - 6. The availability of alternative locations for the proposed use, which are not subject to flooding or erosion damage;
 - 7. The compatibility of the proposed use with existing and anticipated development;
 - 8. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
 - 9. The safety of access to the property in time of flood for ordinary and emergency vehicles;
 - 10. The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site; and,

11. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, water system, streets, and bridges.
 - C. Upon consideration of the factors of Section **6.2(B) {or the numbering system used by the community}** and the purposes of this Ordinance, the **{Floodplain Board or Board of Review}** may attach such conditions to the granting of variances as it deems necessary to further the purposes of this Ordinance.
 - D. Any applicant to whom a variance is granted shall be given written notice over the signature of a community official that:
 1. The issuance of a variance to construct a structure below the Regulatory Flood Elevation will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage, and
 2. Such construction below the Regulatory Flood Elevation increases risks to life and property;
 - E. The Floodplain Administrator shall maintain a record of all variance actions, including justification for their issuance.
- Note to User: Only include subsection F if Board of Review is the entity.*
- F. A person aggrieved in any manner by an action of the Board of Review may within thirty days appeal to the Floodplain Board.

6.3 CONDITIONS FOR VARIANCES

- A. Variances shall only be issued:
 1. Upon 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, victimization of the public, or conflict with existing local laws or ordinances;
 2. Variances may be issued for the repair, rehabilitation, or restoration of structures listed in the National Register of Historic Places or the State Inventory of Historic Places, upon a determination that the proposed repair or rehabilitation will not preclude the structures' continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure;
 3. Upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief;
 4. Upon a showing of good and sufficient cause;
 5. Upon a determination that failure to grant the variance would result in exceptional hardship to the applicant;
 6. Upon a showing that the use cannot perform its intended purpose unless it is located or carried out in close proximity to water. This includes only facilities defined in Section **2.0 {or the numbering system used by the community}** of this Ordinance in the definition of "Functionally Dependent Use."
- B. Variances shall not be issued within any floodway if any increase in the Base Flood Elevation would result.
- C. 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 Regulatory Flood Elevation, provided the procedures of Sections **4.0 and 5.0 {or**

the numbering system used by the community of this Ordinance have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases.

SECTION 7.0
REQUIREMENTS FOR COLORADO RIVER COMMUNITIES
(Colorado River Floodway Act, Public Law 99-450)

7.1 COLORADO RIVER FLOODWAY

Since the Colorado River Floodway has, under flood conditions, proven to be an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply to the Colorado River Floodway, in addition to the basic requirements of Sections 4 and 5 {or the numbering system used by the community}:

- A. Encroachments, including fill, new construction, substantial improvements, and other development are prohibited. Necessary river control, water conservation, power, water quality structures and related works, and improvements and alterations to approved structures associated with allowed uses of the floodway under Section **7.1 B {or the numbering system used by the community}** are excluded from this prohibition if they follow the NFIP Floodway Revision process described in the Code of Federal Regulations at 44CFR 65.12 for a Conditional Letter of Map Revision and the proposed project is reviewed and concurred with by the Bureau of Reclamation and approved by the community. Within 6 months of the completion of the approved project, the as-built data for the project must be submitted for a Letter of Map Revision to assure the accurate depiction of the Colorado River Floodway on the Flood Insurance Rate Maps.
- B. Allowed uses of the floodway may include functions and uses that serve the public interest, that are compatible with the floodway operation, and that will not cause a rise in the Colorado River base flood elevation. These may include river control, water conservation and diversion, power and water quality structures and related works; remedial or corrective actions including, but not limited to, drainage facilities to assist in controlling adjacent high ground water conditions caused by flood flows; public and tribal roads; military activities; fish and wildlife enhancement projects; navigational aids; emergency action assistance; public health assistance; compatible public, private and tribal recreational developments such as parks, golf courses, docks and boat launching ramps; and compatible agricultural uses that do not include permanent crops which would constitute an obstruction to river flood flows.
- C. The floodplain administrator shall require permits for proposed development that is allowed by Section 7.3 A. The proposed development must be reviewed and concurred with by the Bureau of Reclamation to assure compatibility with the floodway operation prior to approval of the permit(s).

7.2 COLORADO RIVER FLOODWAY FRINGE

The following provisions apply in addition to the basic requirements of Sections **4 and 5 {or the numbering system used by the community}**:

- A. Fill, permanent structures or buildings, including residential structures, may be placed or erected in the Colorado River Floodway Fringe, provided, in the case of buildings, that the elevation of the lowest floor (including basements) is at least one foot above the Colorado River Base Flood Elevation.
- B. Land may be filled, provided the top of the compacted fill shall at no point be below the Colorado River Base Flood Elevation for at least twenty-five feet beyond the limits of any structure erected or placed thereon.

7.3 FLOOD-RELATED EROSION-PRONE AREAS OF THE COLORADO RIVER

- A. The Floodplain Administrator shall require permits for proposed construction and other development within the floodway fringe area of the Colorado River. Such permits shall be reviewed to determine whether the proposed site alterations and improvements will be reasonably safe from flood-related erosion and will not cause flood-related erosion hazards or otherwise aggravate the existing hazard.

- B.** If a proposed improvement is found to be in the path of flood-related erosion or would increase the erosion hazard, such improvement shall be relocated or adequate protective measures shall be taken to avoid aggravating the existing erosion hazard.
- C.** A setback from the floodway is required for all new development to create a buffer and to provide access to the floodway for possible maintenance and improvements work. The buffer may consist of a natural vegetation or contour strip. This buffer shall be designated according to the flood-related erosion hazard and erosion rates in relation to the anticipated “useful life” of structures, and depending upon the geologic, hydrologic, topographic, and climatic characteristics of the land. The buffer may be used for suitable open space purposes, such as agriculture, forestry, outdoor recreation and wildlife habitat areas, and for other activities using temporary and portable structures only.
- D.** A waiver to the setback requirements may be granted if it can be demonstrated that adequate erosion and flow velocity protection can and will be constructed and maintained, and provided that the erosion protection meets the applicable parts of Volume 44, Code of Federal Regulations, section 65.5(a)(6). All plans for erosion and flow velocity protection must have the review and concurrence of the Bureau of Reclamation and be reviewed and approved by the Floodplain Administrator.

APPENDIX Additional Definitions

Note to User

These additional definitions may be added.

Accessory use: A use which is incidental and subordinate to the principal use of the parcel of land on which it is located.

Alluvial fan: A geomorphologic feature characterized by a cone or fan-shaped deposit of boulders, gravel, and fine sediments that have been eroded from mountain slopes, transported by flood flows, and then deposited on the valley floors, and which is subject to flash flooding, high velocity flows, debris flows, erosion, sediment movement and deposition, and channel migration.

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

Area of special flood-related erosion hazard: The land within a community which is most likely to be subject to severe flood-related erosion losses.

Determining Market Value of Existing Structures: “Market value” shall be determined by estimating the cost to replace the structure in new condition and adjusting that cost figure by the amount of depreciation which has accrued since the structure was constructed.

- 1) The cost of replacement of the structure shall be based on a square foot cost factor determined by reference to a building cost estimating guide recognized by the building construction industry.
- 2) The amount of depreciation shall be determined by taking into account the age and physical deterioration of the structure and functional obsolescence as approved by the Floodplain Administrator but shall not include economic or other forms of external obsolescence.
- 3) Use of replacement costs or accrued depreciation factors different from those contained in recognized building cost estimating guides may be considered only if such factors are included in a report prepared by an independent professional appraiser and supported by a written explanation of the differences.

Existing manufactured home park or subdivision: 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 **{insert date of first floodplain management Ordinance adopted}**.

Expansion to an existing manufactured home park or subdivision: 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).

Flood-related erosion: The collapse or subsidence of land along the shore of a lake or other body of water as a result of undermining caused by waves or currents of water exceeding anticipated cyclical level 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 a flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding.

Flood-related erosion area or Flood-related erosion prone area: A land area adjoining the shore of a lake or other body of water, which due to the composition of the shoreline or bank and high water levels or wind-driven currents, is likely to suffer flood-related erosion damage.

Flood-related erosion area management: The operation of an overall program of corrective and preventive measures for reducing flood-related erosion damage, including but not limited to emergency preparedness plans, flood-related erosion control works, and floodplain management regulations.

Fraud and victimization: As related to **Section 6.0** of this Ordinance, means that the variance granted must not cause fraud on or victimization of the public. In examining this requirement, the **{community governing body}** will consider the fact that every newly constructed building adds to government responsibilities and remains a part of the community for fifty to one-hundred years. Buildings that are permitted to be constructed below the Regulatory Flood Elevation are subject during all those years to increased risk of damage from floods, while future owners of the property and the community as a whole are subject to all the costs, inconvenience, danger, and suffering that those increased flood damages bring. In addition, future owners may purchase the property, unaware that it is subject to potential flood damage, and can be insured only at very high flood insurance rates.

Levee: 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: 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.

New manufactured home park or subdivision: 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 the community.

Program deficiency: A defect in a community's floodplain management regulations or administrative procedures that impairs effective implementation of those floodplain management regulations.

Public safety and nuisance: As related to **Section 6.0** of this Ordinance, means that the granting of a variance must not result in anything which is injurious to the safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.

Remedy a violation: To bring the structure or other development into compliance with Federal, State, or local floodplain 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 Ordinance or otherwise deterring future similar violations, or reducing State or Federal financial exposure with regard to the structure or other development.