

DRAFT

VERSION 2: MODEL CODE-COORDINATED ORDINANCE

This model ordinance is coordinated – written as a companion – with the flood provisions of the International Codes® (I-Codes). For more information on the use of this model ordinance, see *Reducing Flood Losses Through the International Codes: Coordinating Building Codes and Regulations, 4th edition* (2014) at <http://www.fema.gov/media-library/assets/documents/96634>.

To obtain this model ordinance in Word, send an email with your name, community, and state to FEMA-BuildingScienceHelp@fema.dhs.gov.

Version 2 assumptions:

- There are no changes to the flood provisions in the bodies of the I-Codes that weaken those flood provisions.
- Chapter 1 (administrative provisions) of the I-Codes *is* adopted, and the flood provisions are retained.
- International Building Code (IBC) Appendix G *is not* adopted.
- The provisions for all flood zones (i.e., zones that start with “A” and “V”) are applicable.

Other versions:

- Version 1 assumes that Chapter 1 of the I-Codes is adopted and that IBC Appendix G is adopted.
- Version 3 assumes that Chapter 1 of the I-Codes is not adopted and that IBC Appendix G is not adopted

NOTES on VERSION 2 OF THE MODEL CODE-COORDINATED ORDINANCE

Identification of Community Specifics. Locations in the Model Ordinance where community-specific information must be inserted are identified with **{bold brackets}**. The information must be provided in order for the ordinance to apply to a specific community. Note that the title and date of the Flood Insurance Study (FIS) are required and that an optional table can be completed to list effective Flood Insurance Rate Map (FIRM) panel numbers and dates.

Adoption of FIS and FIRMs: Two alternatives are provided for the section on the authority to automatically adopt revised maps [FIRMs]: the first alternative is for states in which communities have that authority, and the second is for states in which communities do not have that authority.

Floodplain Administrator Responsibilities. The Model Ordinance identifies the Floodplain Administrator as the office or position that is designated by the community’s legislative body to be responsible for administering the floodplain management regulations. The Floodplain Administrator may or may not be the Building Official. In many communities, floodplain management responsibilities have traditionally been assigned to a department other than the building department (e.g., planning, engineering, public works, stormwater). In other communities, the responsibilities are assigned to the building department. In addition, in many communities, while one official is designated as the Floodplain Administrator, floodplain management requirements may be adopted in various regulatory instruments (e.g., subdivision

regulations, zoning ordinance). The Model Ordinance allows departments other than the building department to retain the floodplain management responsibilities that the building codes do not assign to the Building Official.

Building Official Responsibilities. The Model Ordinance alerts the reader when the Building Official’s authority is established in the building codes. The State must consider the appropriate form of reference to the authorities of the Building Official that are established in the building code.

Administrative Provisions. The administrative sections of the Model Ordinance are organized to be consistent with the administrative provisions of the building codes. (Note that the section numbering in the IBC and International Residential Code [IRC] is not exactly the same.) Many States delete, rewrite, or modify the first chapters from the I-Codes, some select IBC Chapter 1 as the administrative provisions for all codes, and some allow communities to write their own administrative procedures. When this Model Ordinance is evaluated for use in a specific State, it must be compared to the adopted building codes to determine which provisions to retain in the ordinance and which are covered in the codes. However, it is important to note that some administrative provisions, even if they appear in the building codes, must be retained in the Model Ordinance in order to appropriately regulate development that is not within the scopes of the building codes.

Inspection and Enforcement. The Model Ordinance requires the Floodplain Administrator to make certain inspections and enforce the ordinance and alerts the reader that building codes authorize the Building Official to inspect work for which building permits have been issued and to enforce the building codes.

Higher Standards: See *Reducing Flood Losses Through the International Codes, 4th Edition*, for sample language for several provisions that exceed the minimum requirements of the I-Codes and the National Flood Insurance Program (NFIP). Higher standards shown as modifications to administrative sections (Chapter 1) and Appendix G can be readily incorporated into the Model Ordinance.

IMPORTANT: Changes to local floodplain management regulations should be reviewed by the NFIP State Coordinating Agency or the FEMA Regional Office. An ordinance should not be adopted based on the draft language shown below without obtaining the appropriate review and concurrence. Careful attention should be paid to changes and renumbering that affect cross references, especially if the ordinance is modified to retain only requirements for flood zones that start with “A.”

For assistance, contact the NFIP State Coordinating Agency or the FEMA Regional Office.

**ORDINANCE FOR ADOPTION OF THE FLOODPLAIN MANAGEMENT REGULATIONS
OF {COMMUNITY}**

ORDINANCE NO. XX-XX

AN ORDINANCE BY THE {community's governing body} AMENDING THE {name of community} CODE OF ORDINANCES TO REPEAL {insert appropriate chapter/section numbers}; TO ADOPT A NEW {insert appropriate chapter/section numbers}; TO ADOPT FLOOD HAZARD MAPS; TO DESIGNATE A FLOODPLAIN ADMINISTRATOR; AND PROVIDING FOR SEVERABILITY AND AN EFFECTIVE DATE.

WHEREAS, the Legislature of the State of **{State}** has, in **{statutory citation}**, conferred upon local governments the authority to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Federal Emergency Management Agency has identified special flood hazard areas within the boundaries of **{name of community}** and such areas may be 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, and

WHEREAS, the **{name of community}** was accepted for participation in the National Flood Insurance Program on **{date of regular program entry}** and the **{community's governing body}** desires to continue to meet the requirements of Title 44 Code of Federal Regulations, Sections 59 and 60, necessary for such participation; and

WHEREAS, the **{name of community}** is required, pursuant to **{State statute citation}** to administer and enforce the State building codes, and such building codes contain certain provisions that apply to the design and construction of buildings and structures in flood hazard areas.

NOW, THEREFORE, BE IT ORDAINED by the **{community's governing body}** of **{name of community}** that the following floodplain management regulations are hereby adopted.

SECTION 1. RECITALS.

The foregoing whereas clauses are incorporated herein by reference and made a part hereof.

SECTION 2. These regulations specifically repeal and replace the following ordinance(s) and regulation(s): **{insert citation to existing flood damage reduction regulations that will be replaced by these regulations and citation(s) to other ordinances that have flood provisions, such as subdivision regulations, that also will be replaced by these regulations}**.

SECTION 101 ADMINISTRATION

101.1 Title. These regulations, in combination with the flood provisions of the **{title of building codes}** (hereinafter “building codes,” consisting of the Building Code, Residential Code, Existing Building Code, and related codes), shall be known as the *Floodplain Management Regulations of {name of community}* (hereinafter “these regulations”).

101.2 Purpose. The purposes of these regulations and the flood load and flood resistant construction requirements of the building codes are to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific flood hazard areas through the establishment of comprehensive regulations for management of flood hazard areas, designed to:

- (1) Prevent unnecessary disruption of commerce, access and public service during times of flooding;
- (2) Manage the alteration of natural floodplains, stream channels and shorelines;
- (3) Manage filling, grading, dredging and other development which may increase flood damage or erosion potential;
- (4) Prevent or regulate the construction of flood barriers which will divert floodwaters or which can increase flood hazards; and
- (5) Contribute to improved construction techniques in the floodplain.

101.3 Objectives. The objectives of these regulations are to protect human life, minimize the expenditure of public money for flood control projects, minimize the need for rescue and relief efforts associated with flooding, minimize prolonged business interruption, minimize damage to public facilities and utilities, help maintain a stable tax base by providing for the sound use and development of flood-prone areas, contribute to improved construction techniques in the floodplain and ensure that potential owners and occupants are notified that property is within flood hazard areas.

101.4 Scope. The provisions of these regulations, in combination with the flood provisions of the building codes shall apply to all proposed development in flood hazard areas established in Section 102 of these regulations.

101.5 Coordination with Building Codes. Pursuant to the requirement established in State statute that the **{name of community}** administer and enforce the State building codes, the **{community’s governing body}** of **{name of community}** does hereby acknowledge that the building codes contain certain provisions that apply to the design and construction of buildings and structures in flood hazard areas. Therefore, these regulations are intended to be administered and enforced in conjunction with the building codes.

101.6 Warning. The degree of flood protection required by these regulations and the building codes is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur. Flood heights may be increased by man-made or natural causes. Enforcement of these regulations and the building codes does not imply that land outside the special flood hazard areas, or that uses permitted within such flood hazard areas, will be free from flooding or flood damage.

101.7 Other Laws. The provisions of these regulations shall not be deemed to nullify any provisions of local, State or federal law.

101.8 Violations. Any violation of a provision of these regulations, or failure to comply with a permit or variance issued pursuant to these regulations or any requirement of these regulations, shall be handled in accordance with the requirements of **{insert citation to applicable local code}**.

101.9 Abrogation and Greater Restrictions. These regulations supersede any ordinance in effect in flood hazard areas. However, these regulations are not intended to repeal or abrogate any existing ordinances including land development regulations, subdivision regulations, zoning ordinances, stormwater management regulations, or building codes. In the event of a conflict between these regulations and any other ordinance, code, or regulation, the more restrictive shall govern.

SECTION 102 APPLICABILITY

102.1 General. These regulations, in conjunction with the building codes, provide minimum requirements for development located in flood hazard areas, including the subdivision of land; site improvements and installation of utilities; placement and replacement of manufactured homes; placement of recreational vehicles; new construction and repair, reconstruction, rehabilitation or additions to new construction; substantial improvement of existing buildings and structures, including restoration after damage; installation of tanks; temporary structures and temporary or permanent storage; utility and miscellaneous Group U buildings and structures; and certain building work exempt from permit under the building codes; and other buildings and development activities.

[Option Sec. 102.2 and 102.3, for States that do not have auto-adopt authority]

102.2 Establishment of Flood Hazard Areas. The **{name of community}** was accepted for participation in the National Flood Insurance Program on **{date of regular program entry or date of first floodplain management ordinance, whichever is earlier}**. The **{full title of the FIS }** dated **{date of FIS}** and the accompanying Flood Insurance Rate Maps (FIRM) identified in Table 102.2(1) are hereby adopted by reference and serve as the basis for establishing flood hazard areas. Maps and studies that establish flood hazard areas are on file at the **{name and address of the office of the Floodplain Administrator}**. *[inclusion of table is optional; if not included here, then further modify residential code footnote (g) to remove indication that maps will be listed by panel and date]*

Table 102.2(1). Effective Flood Insurance Rate Map Panel Numbers and Dates

Map Panel #	Panel Date	Map Panel #	Panel Date

102.3 Establishment of Flood Hazard Areas; building code. The building code is revised as follows:

- (1) Building Code, Section 1612.3: **1612.3 Establishment of flood hazard areas.** To

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

- (2) Residential Code, Table R301.2(1), Flood Hazards, footnote (g): g. The jurisdiction shall, by local floodplain management ordinance, ~~specify fill in this part of the table with~~ (a) the date of the jurisdiction’s entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the title and date(s) of the Flood Insurance Study and (c) the panel numbers and dates of all currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, ~~as amended.~~

[Option Sec. 102.2 and 102.3, for States that have auto-adopt authority]

102.2 Establishment of Flood Hazard Areas. The {name of community} was accepted for participation in the National Flood Insurance Program on {date of regular program entry or date of first floodplain management ordinance, whichever is earlier}. The {full title of the FIS } dated {date of FIS}, and all subsequent amendments and revisions, and the accompanying Flood Insurance Rate Maps (FIRM) identified in Table 102.2(1), and all subsequent amendments and revisions to such maps, are hereby adopted by reference and serve as the basis for establishing flood hazard areas. Maps and studies that establish flood hazard areas are on file at the {name and address of the office of the Floodplain Administrator}. *[inclusion of table is optional; if not included here, then further modify residential code footnote (g) to remove indication that maps will be listed by panel and date]*

Table 102.2(1). Effective Flood Insurance Rate Map Panel Numbers and Dates*

Map Panel #	Panel Date	Map Panel #	Panel Date

*individual map panels may have been amended or revised subsequent to the adoption of these regulations.

102.3 Establishment of Flood Hazard Areas; building code. The building code is revised as follows:

- (1) Building Code, Section 1612.3: **1612.3 Establishment of flood hazard areas.** To establish flood hazard areas, the applicable governing authority shall adopt, by local floodplain management ordinance, a flood hazard map and supporting data. ~~The flood hazard map shall include, at a minimum, areas of special flood hazard as identified by the Federal Emergency Management Agency in an engineering report entitled “The Flood Insurance Study for [INSERT NAME OF JURISDICTION],” dated [INSERT DATE OF ISSUANCE], as amended or revised with the accompanying Flood Insurance Rate~~

~~Map (FIRM) and Flood Boundary and Floodway Map (FBFM) and related supporting data along with any revisions thereto. The adopted flood hazard map and supporting data are hereby adopted by reference and declared to be part of this Section.~~

- (2) Residential Code, Table R301.2(1), Flood Hazards, footnote (g): g. The jurisdiction shall, by local floodplain management ordinance, specify ~~fill in this part of the table with~~ (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the title and date(s) of the Flood Insurance Study and (c) the panel numbers and dates of all currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, ~~as amended.~~

SECTION 103 DUTIES AND POWERS OF THE FLOODPLAIN ADMINISTRATOR

103.1 Designation. The {insert position title} is designated the Floodplain Administrator. The Floodplain Administrator may delegate performance of certain duties to other employees.

103.2 General. The Floodplain Administrator is authorized and directed to administer the provisions of these regulations. The Floodplain Administrator shall have the authority to render interpretations of these regulations and to establish policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be consistent with the intent and purpose of these regulations and the flood provisions of the building code.

103.3 Coordination. The Floodplain Administrator shall coordinate with the Building Official to administer and enforce the flood provisions of the building code.

103.4 Duties. The duties of the Floodplain Administrator shall include but are not limited to:

- (1) Review all permit applications to determine whether proposed development is located in flood hazard areas established in Section 102 of these regulations.
- (2) Require development in flood hazard areas to be reasonably safe from flooding and to be designed and constructed with methods, practices and materials that minimize flood damage.
- (3) Interpret flood hazard area boundaries, provide available flood elevation and flood hazard information.
- (4) Determine whether additional flood hazard data shall be obtained or developed.
- (5) Establish, in coordination with the Building Official, written procedures for administering and documenting determinations of substantial improvement and substantial damage made pursuant to Section 103.11 of these regulations.
- (6) Review requests submitted to the Building Official seek approval to modify the strict application of the flood load and flood resistant construction requirements of the building code, to determine whether such requests require consideration as a variance pursuant to Section 106 of these regulations.
- (7) Require applicants who submit hydrologic and hydraulic engineering analyses to support permit applications to submit to FEMA the data and information necessary to maintain the Flood Insurance Rate Maps if the analyses propose to change base flood elevations, flood hazard area boundaries, or floodway designations; such submissions shall be made within 6 months of such data becoming available.

- (8) Require applicants who propose alteration of a watercourse to notify adjacent community and the NFIP State Coordinating Agency, and to submit copies of such notifications to the Federal Emergency Management Agency (FEMA).
- (9) Notify the Federal Emergency Management Agency when the corporate boundaries of **{name of community}** have been modified.

103.5 Other permits. It shall be the responsibility of the Floodplain Administrator to assure that approval of a proposed development shall not be given until proof that necessary permits have been granted by federal or State agencies having jurisdiction over such development.

103.6 Determination of design flood elevations. If design flood elevations are not specified, the Floodplain Administrator is authorized to require the applicant to:

- (1) Obtain, review and reasonably utilize data available from a federal, State or other source, or
- (2) Determine the design flood elevation in accordance with accepted hydrologic and hydraulic engineering techniques. Such analyses shall be performed and sealed by a registered design professional. Studies, analyses and computations shall be submitted in sufficient detail to allow review and approval by the Floodplain Administrator. The accuracy of data submitted for such determination shall be the responsibility of the applicant.

103.7 Activities in riverine flood hazard areas. In riverine flood hazard areas where design flood elevations are specified but floodways have not been designated, the Floodplain Administrator shall not permit any new construction, substantial improvement or other development, including fill, unless the applicant submits an engineering analysis prepared by a registered design professional that demonstrates that the cumulative effect of the proposed development, when combined with all other existing and anticipated flood hazard area encroachment, will not increase the design flood elevation more than 1 foot (305 mm) at any point within the community.

103.8 Floodway encroachment. Prior to issuing a permit for any floodway encroachment, including fill, new construction, substantial improvements and other development or land-disturbing-activity, the Floodplain Administrator shall require submission of a certification prepared by a registered design professional, along with supporting technical data, that demonstrates that such development will not cause any increase in the base flood level.

103.8.1 Floodway revisions. A floodway encroachment that increases the level of the base flood is authorized if the applicant has applied for a conditional Flood Insurance Rate Map (FIRM) revision and has received the approval of the FEMA.

103.9 Watercourse alteration. Prior to issuing a permit for any alteration or relocation of any watercourse, the Floodplain Administrator shall require the applicant to provide notification of the proposal to the appropriate authorities of all affected adjacent government jurisdictions, as well as appropriate State agencies. A copy of the notification shall be maintained in the permit records and submitted to FEMA.

103.9.1 Engineering analysis. The Floodplain Administrator shall require submission of an engineering analysis prepared by a registered design professional, demonstrating that the flood-carrying capacity of the altered or relocated portion of the watercourse will not be decreased. Such watercourses shall be maintained in a manner that preserves

the channel's flood-carrying capacity.

103.10 Alterations in coastal areas. Prior to issuing a permit for any alteration of sand dunes and mangrove stands in coastal high hazard areas and Coastal A Zones, the Floodplain Administrator shall require submission of an engineering analysis, prepared by a registered design professional, demonstrating that the proposed alteration will not increase the potential for flood damage.

103.11 Substantial improvement and substantial damage determinations. For applications for building permits to improve buildings and structures, including alterations, movement, enlargement, replacement, repair, change of occupancy, additions, rehabilitations, renovations, substantial improvements, repairs of substantial damage, and any other improvement of or work on such buildings and structures, the Floodplain Administrator, in coordination with the Building Official, shall:

- (1) Estimate the market value, or require the applicant to obtain a professional appraisal prepared by a qualified independent appraiser, of the market value of the building or structure before the start of construction of the proposed work; in the case of repair, the market value of the building or structure shall be the market value before the damage occurred and before any repairs are made;
- (2) Compare the cost to perform the improvement, the cost to repair the damaged building to its pre-damaged condition, or the combined costs of improvements and repairs, if applicable, to the market value of the building or structure;
- (3) Determine and document whether the proposed work constitutes substantial improvement or repair of substantial damage; and
- (4) Notify the applicant if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood resistant construction requirements of the building code is required.

103.12 Department records. In addition to the requirements of the building code and these regulations, and regardless of any limitation on the period required for retention of public records, the Floodplain Administrator shall maintain and permanently keep and make available for public inspection all records that are necessary for the administration of these regulations and the flood provisions of the building codes, including Flood Insurance Rate Maps; documents from FEMA that amend or revise FIRMs; records of issuance of permits and denial of permits; determinations of whether proposed work constitutes substantial improvement or repair of substantial damage; required certifications and documentation specified by the building codes and these regulations; notifications to adjacent communities, FEMA, and the State related to alterations of watercourses; assurance that the flood carrying capacity of altered waterways will be maintained; documentation related to variances, including justification for their issuance; and records of enforcement actions taken pursuant to these regulations and the flood resistant provisions of the building codes.

103.13 Liability. The Floodplain Administrator and any employee charged with the enforcement of these regulations, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by these regulations or other pertinent law or ordinance, shall not thereby be rendered liable personally and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. Any suit instituted against an officer or employee

because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of these regulations shall be defended by legal representative of the jurisdiction until the final termination of the proceedings. The Floodplain Administrator and any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of these regulations.

SECTION 104 PERMITS

104.1 Permits Required. Any person, owner or authorized agent who intends to conduct any development in a flood hazard area shall first make application to the Floodplain Administrator and shall obtain the required permit.

104.2 Application for permit. The applicant shall file an application in writing on a form furnished by the Floodplain Administrator. Such application shall:

- (1) Identify and describe the development to be covered by the permit.
- (2) Describe the land on which the proposed development is to be conducted by legal description, street address or similar description that will readily identify and definitely locate the site.
- (3) Include a site plan showing the delineation of flood hazard areas, floodway boundaries, flood zones, design flood elevations, ground elevations, proposed fill and excavation and drainage patterns and facilities.
- (4) Include in subdivision proposals and other proposed developments with more than 50 lots or larger than 5 acres, base flood elevation data in accordance with Section 103.6 of these regulations if such data are not identified for the flood hazard areas established in Section 102 of these regulations.
- (5) Indicate the use and occupancy for which the proposed development is intended.
- (6) Be accompanied by construction documents, grading and filling plans and other information deemed appropriate by the Floodplain Administrator.
- (7) State the valuation of the proposed work.
- (8) Be signed by the applicant or the applicant's authorized agent.

104.3 Validity of permit. The issuance of a permit under these regulations or the building codes shall not be construed to be a permit for, or approval of, any violation of this appendix or any other ordinance of the jurisdiction. The issuance of a permit based on submitted documents and information shall not prevent the Floodplain Administrator from requiring the correction of errors. The Floodplain Administrator is authorized to prevent occupancy or use of a structure or site which is in violation of these regulations or other ordinances of this jurisdiction.

104.4 Expiration. A permit shall become invalid if the proposed development is not commenced within 180 days after its issuance, or if the work authorized is suspended or abandoned for a period of 180 days after the work commences. Extensions shall be requested in writing and justifiable cause demonstrated. The Floodplain Administrator is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each.

104.5 Suspension or revocation. The Floodplain Administrator is authorized to suspend or

revoke a permit issued under these regulations wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or code of this jurisdiction.

SECTION 105 INSPECTIONS

105.1 General. Development for which a permit is required shall be subject to inspection. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of these regulations or the building code. Inspections presuming to give authority to violate or cancel the provisions of these regulations or the building code or other ordinances shall not be valid.

105.2 Inspections of development. The Floodplain Administrator shall make or cause to be made, inspections of all development in flood hazard areas, including installation and replacement of manufactured homes, authorized by issuance of a permit under these regulations.

SECTION 106 VARIANCES

106.1 General. The **{body to hear variances}** shall hear and decide requests for variances. The **{body to hear variances}** shall base its determination on technical justifications and has the right to attach such conditions to variances as it deems necessary to further the purposes and objectives of these regulations and Section 1612 of the Building Code.

106.2 Records. The Floodplain Administrator shall maintain a permanent record of all variance actions, including justification for their issuance.

106.3 Historic structures. A variance is authorized to be issued for the repair or rehabilitation of a historic structure 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.

Exception: Within flood hazard areas, historic structures that are not:

- (1) Listed or preliminarily determined to be eligible for listing in the National Register of Historic Places; or
- (2) Determined by the Secretary of the U.S. Department of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined to qualify as an historic district; or
- (3) Designated as historic under a State or local historic preservation program that is approved by the Department of Interior.

106.4 Functionally dependent uses. A variance is authorized to be issued for the construction or substantial improvement of a functionally dependent use provided the criteria in Section 1612.1 of the Building Code are met and the variance is the minimum necessary to allow the construction or substantial improvement, and that all due consideration has been given to methods and materials that minimize flood damages during the design flood and create no additional threats to public safety.

106.5 Restrictions in floodways. A variance shall not be issued for any proposed development

in a floodway if any increase in flood levels would result during the base flood discharge.

106.6 Considerations. In reviewing applications for variances, all technical evaluations, all relevant factors, all other portions of these regulations, and the following shall be considered:

- (1) The danger that materials and debris may be swept onto other lands resulting in further injury or damage;
- (2) The danger to life and property due to flooding or erosion damage;
- (3) The susceptibility of the proposed development, including contents, to flood damage and the effect of such damage on current and future owners;
- (4) The importance of the services provided by the proposed development to the community;
- (5) The availability of alternate locations for the proposed development that are not subject to flooding or erosion;
- (6) The compatibility of the proposed development with existing and anticipated development;
- (7) The relationship of the proposed development to the comprehensive plan and floodplain management program for that area;
- (8) The safety of access to the property in times of flood for ordinary and emergency vehicles;
- (9) The expected heights, velocity, duration, rate of rise and debris and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site, and;
- (10) The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, streets and bridges.

106.7 Conditions for issuance. Variances shall only be issued upon:

- (1) A technical showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site renders the elevation standards inappropriate;
- (2) A determination that failure to grant the variance would result in exceptional hardship by rendering the lot undevelopable;
- (3) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, nor create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances;
- (4) A determination that the variance is the minimum necessary, considering the flood hazard, to afford relief; and
- (5) Notification to the applicant in writing over the signature of the Floodplain Administrator that the issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage, and that such construction below the base flood level increases risks to life and property.

SECTION 107 VIOLATIONS

107.1 Violations. Any development in any flood hazard area that is being performed without an issued permit or that is in conflict with an issued permit shall be deemed a violation.

107.2 Authority. The Floodplain Administrator is authorized to serve notices of violation or stop work orders to owners of property involved, to the owner's agent, or to the person or persons doing the work for development that is not within the scope of the building codes, but is regulated by these regulations and that is determined to be a violation.

107.3 Unlawful continuance. Any person who shall continue any work after having been served with a notice of violation or a stop work order, except such work as that person is directed to perform to remove or remedy a violation or unsafe condition, shall be subject to penalties as prescribed by law. **{Or insert specific reference to State or local law or appropriate section of the building codes.}**

SECTION 201 DEFINITIONS

201.1 General. The following words and terms shall, for the purposes of these regulations, have the meanings shown herein. Other terms are defined in the Building Code and used in the Residential Code.

201.2 Definitions

ALTERATION OF A WATERCOURSE. A dam, impoundment, channel relocation, change in channel alignment, channelization, or change in cross-sectional area of the channel or the channel capacity, or any other form of modification which may alter, impede, retard or change the direction and/or velocity of the riverine flow of water during conditions of the base flood.

ASCE 24. The standard *Flood Resistant Design and Construction*, referenced by the building code, developed and published by the American Society of Civil Engineers, Reston, VA.

BUILDING CODE. The family of building codes specifically adopted by the State of **{State}** and composed of:

- (1) The Building Code, applicable to buildings and structures other than dwellings within the scope of the Residential Code.
- (2) The Residential Code, applicable to one- and two-family dwellings and townhouses not more than three stories, and accessory structures.
- (3) The Existing Building Code, applicable to existing buildings (as defined in that code).
- (4) Other specified codes.

DEVELOPMENT. Any manmade change to improved or unimproved real estate, including but not limited to, buildings or other structures, temporary structures, temporary or permanent storage of materials, mining, dredging, filling, grading, paving, excavations, operations and other land-disturbing activities.

ENCROACHMENT. The placement of fill, excavation, buildings, permanent structures or other

development into a flood hazard area which may impede or alter the flow capacity of riverine flood hazard areas.

FUNCTIONALLY DEPENDENT USE. A use that cannot be used for its intended purpose unless it is located or carried out in close proximity to water, such as a docking or port facility necessary for the loading or unloading of cargo or passengers, shipbuilding or ship repair. The term does not include long-term storage, manufacture, sales or service facilities.

MANUFACTURED HOME. A structure that is transportable in one or more sections, built on a permanent chassis, designed for use with or without a permanent foundation when attached to the required utilities, and constructed to the Federal Mobile Home Construction and Safety Standards and rules and regulations promulgated by the U.S. Department of Housing and Urban Development. The term also includes mobile homes, park trailers, travel trailers and similar transportable structures that are placed on a site for 180 consecutive days or longer.

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. The price at which a property will change hands between a willing buyer and a willing seller, neither party being under compulsion to buy or sell and both having reasonable knowledge of relevant facts. As used in this ordinance, the term refers to the market value of buildings and structures, excluding the land and other improvements on the parcel. Market value may be established by a qualified independent appraiser, Actual Cash Value (replacement cost depreciated for age and quality of construction), or tax assessment value adjusted to approximate market value by a factor provided by the Property Appraiser. *[This term may be defined in State statute or regulation.]*

NFPA 70. The *National Electric Code*, referenced by the Building Code and the Residential Code, developed and published by the National Fire Protection Association, Quincy, MA.

RECREATIONAL VEHICLE. A vehicle that is built on a single chassis, 400 square feet (37.16 m²) or less when measured at the largest horizontal projection, designed to be self-propelled or permanently towable by a light-duty truck, and designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal 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.

UTILITY AND MISCELLANEOUS GROUP G. Buildings and structures of an accessory character and miscellaneous structure not classified in any special occupancy, as described in the Building Code.

VARIANCE. A grant of relief from the requirements of this section which permits construction in a manner otherwise prohibited by this section where specific enforcement would result in unnecessary hardship.

VIOLATION. A development that is not fully compliant with these regulations or the flood provisions of the building code, as applicable.

WATERCOURSE. A river, creek, stream, channel or other topographic feature in, on, through,

or over which water flows at least periodically.

SECTION 301 SUBDIVISIONS

301.1 General. Any subdivision proposal, including proposals for manufactured home parks and subdivisions, or other proposed new development in a flood hazard area shall be reviewed to assure that:

- (1) All such proposals are consistent with the need to minimize flood damage;
- (2) All public utilities and facilities, such as sewer, gas, electric and water systems are located and constructed to minimize or eliminate flood damage; and
- (3) Adequate drainage is provided to reduce exposure o flood hazards.

301.2 Subdivision requirements. The following requirements shall apply in the case of any proposed subdivision, including proposals for manufactured home parks and subdivisions, any portion of which lies within a flood hazard area:

- (1) The flood hazard area, including floodways, coastal high hazard areas, and Coastal A Zones, as appropriate, shall be delineated on tentative subdivision plats;
- (2) Design flood elevations shall be shown on tentative and final subdivision plats;
- (3) Residential building lots shall be provided with adequate buildable area outside the floodway; and
- (4) The design criteria for utilities and facilities set forth in these regulations and appropriate codes shall be met.

SECTION 401 SITE IMPROVEMENT

401.1 Development in floodways. Development or land disturbing activity shall not be authorized in the floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice, and prepared by a registered design professional, that the proposed encroachment will not result in any increase in the base flood level.

401.2 Coastal high hazard areas and Coastal A Zones. In coastal high hazard areas and Coastal A Zones:

- (1) New buildings shall only be authorized landward of the reach of mean high tide.
- (2) The use of fill for structural support of buildings is prohibited.

401.3 Sewer facilities. All new or replaced sanitary sewer facilities, private sewage treatment plants (including all pumping stations and collector systems) and on-site waste disposal systems shall be designed in accordance with Chapter 7, ASCE 24, to minimize or eliminate infiltration of floodwaters into the facilities and discharge from the facilities into flood waters, or impairment of the facilities and systems.

401.4 Water facilities. All new or replacement water facilities shall be designed in accordance with the provisions of Chapter 7, ASCE 24, to minimize or eliminate infiltration of floodwaters into the systems.

401.5 Storm drainage. Storm drainage shall be designed to convey the flow of surface waters to minimize or eliminate damage to persons or property.

401.6 Streets and sidewalks. Streets and sidewalks shall be designed to minimize potential for increasing or aggravating flood levels.

SECTION 501 MANUFACTURED HOMES

501.1 Elevation. All new and replacement manufactured homes to be placed or substantially improved in a flood hazard area shall be elevated such that the lowest floor of the manufactured home is elevated to or above the design flood elevation.

501.2 Foundations. All new and replacement manufactured homes, including substantial improvement of existing manufactured homes, shall be placed on a permanent, reinforced foundation that is designed in accordance with Section R322 of the Residential Code.

501.3 Anchoring. All new and replacement manufactured homes to be placed or substantially improved in a flood hazard area shall be installed using methods and practices which minimize flood damage. Manufactured homes shall be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement. Methods of anchoring are authorized to 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.

501.4 Enclosures. Fully enclosed areas below elevated manufactured homes shall comply with the requirements of Section R322 of the Residential Code.

501.5 Protection of mechanical equipment and outside appliances. Mechanical equipment and outside appliances shall be elevated to or above the design flood elevation.

Exception. Where such equipment and appliances are designed and installed to prevent water from entering or accumulating within their components and the systems are constructed to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding up to the elevation required by Section R322 of the Residential Code, the systems and equipment shall be permitted to be located below the elevation required by Section R322 of the Residential Code. Electrical wiring systems shall be permitted below the design flood elevation provided they conform to the provisions of NFPA 70.

SECTION 601 RECREATIONAL VEHICLES

601.1 Placement prohibited. The placement of recreational vehicles shall not be authorized in coastal high hazard areas and in floodways.

601.2 Temporary placement. Recreational vehicles in flood hazard areas shall be fully licensed and ready for highway use, and shall be placed on a site for less than 180 consecutive days.

601.3 Permanent placement. Recreational vehicles that are not fully licensed and ready for highway use, or that are to be placed on a site for more than 180 consecutive days shall meet the requirements of Section 501 for manufactured homes.

SECTION 701 TANKS

701.1 Tanks. Underground and above-ground tanks shall be designed, constructed, installed and anchored in accordance with ASCE 24.

SECTION 801 OTHER BUILDING WORK

801.1 Garages and accessory structures. Garages and accessory structures shall be designed and constructed in accordance with ASCE 24.

801.2 Fences. Fences in floodways that may block the passage of floodwaters, such as stockade fences and wire mesh fences, shall meet the requirement of Section 103.8 of these regulations.

801.3 Oil derricks. Oil derricks located in flood hazard areas shall be designed in conformance with the flood loads as required by the Building Code.

801.4 Retaining walls, sidewalks and driveways. Retaining walls, sidewalks and driveways shall meet the requirements for site grading in Chapter 18 of the Building Code.

801.5 Swimming pools. Swimming pools shall be designed and constructed in accordance with ASCE 24. Above-ground swimming pools, on-ground swimming pools, and in-ground swimming pools that involve placement of fill in floodways shall also meet the requirement of Section 103.8 of these regulations.

801.6 Decks, porches, and patios. Decks, porches and patios shall be designed and constructed in accordance with ASCE 24.

801.7 Non-structural concrete slabs in coastal high hazard areas and Coastal A Zones. In coastal high hazard areas and Coastal A Zones, non-structural concrete slabs used as parking pads, enclosure floors, landings, decks, walkways, patios and similar non-structural uses are permitted beneath or adjacent to buildings and structures provided the concrete slabs shall be constructed in accordance with ASCE 24.

801.8 Roads and watercourse crossings in regulated floodways. Roads and watercourse crossings that encroach into regulated floodways, including roads, bridges, culverts, low-water crossings and similar means for vehicles or pedestrians to travel from one side of a watercourse to the other side, shall meet the requirements of Section 103.8 of these regulations.

SECTION 901 TEMPORARY STRUCTURES AND TEMPORARY STORAGE

901.1 Temporary structures. Temporary structures shall be erected for a period of less than 180 days. Temporary structures shall be anchored to prevent flotation, collapse or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the design flood. Fully enclosed temporary structures shall have flood openings that are in accordance with ASCE 24 to allow for the automatic entry and exit of flood waters.

901.2 Temporary storage. Temporary storage includes storage of goods and materials for a

period of less than 180 days. Stored materials shall not include hazardous materials.

901.3 Floodway encroachment. Temporary structures and temporary storage in floodways shall meet the requirements of Section 103.8 of these regulations.

SECTION 1001 UTILITY AND MISCELLANEOUS GROUP U

1001.1 Utility and Miscellaneous Group U. Utility and Miscellaneous Group U includes buildings that are accessory in character and miscellaneous structures not classified in any specific occupancy in the Building Code, including, but not limited to, agricultural buildings, aircraft hangars (accessory to a one- or two-family residence), barns, carports, fences more than 6 feet (1829 mm) high, grain silos (accessory to a residential occupancy), greenhouses, livestock shelters, private garages, retaining walls, sheds, stables, and towers.

1001.2 Flood loads. Utility and miscellaneous Group U buildings and structures, including substantial improvement of such buildings and structures, shall be anchored to prevent flotation, collapse or lateral movement resulting from flood loads, including the effects of buoyancy, during conditions of the design flood.

1001.3 Elevation. Utility and miscellaneous Group U buildings and structures, including substantial improvement of such buildings and structures, shall be elevated such that the lowest floor, including basement, is elevated to or above the design flood elevation in accordance with ASCE 24.

1001.4 Enclosures below design flood elevation. Fully enclosed areas below the design flood elevation shall be constructed in accordance with ASCE 24.

1001.5 Flood-damage resistant materials. Flood-damage-resistant materials shall be used below the design flood elevation.

1001.6 Protection of mechanical, plumbing and electrical systems. Mechanical, plumbing and electrical systems, including plumbing fixtures, shall be elevated to or above the design flood elevation.

Exception: Electrical systems, equipment and components, and heating, ventilating, air conditioning, and plumbing appliances, plumbing fixtures, duct systems, and other service equipment shall be permitted to be located below the design flood elevation provided that they are designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to the design flood elevation in compliance with the flood-resistant construction requirements of this code. Electrical wiring systems shall be permitted to be located below the design flood elevation provided they conform to the provisions of NFPA 70.

SECTION 3. SEVERABILITY.

If any section, subsection, sentence, clause, or phrase of these regulations is, for any reason, declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the regulations as a whole, or any part thereof, other than the part so declared.

SECTION 4. EFFECTIVE DATE.

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This ordinance shall take effect on **{insert date}**.

[Jurisdiction to add signature blocks.]