

FINAL DRAFT

VERSION TWO: MODEL CODE-COORDINATED ORDINANCE

IMPORTANT: Changes to local floodplain management regulations should be reviewed by the NFIP State Coordinating Agency or the Federal Emergency Management Agency (FEMA) Regional Office. Although this model ordinance was prepared by FEMA, it should not be adopted without obtaining the appropriate review and concurrence by the NFIP State Coordinator or the FEMA Regional Office. Careful attention should be paid to changes and renumbering that affect cross references, especially when the ordinance is modified to retain only requirements for flood zones that start with “A.”

This model ordinance is coordinated with – written as a companion to – the flood provisions of the 2015 and later editions 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 Floodplain Management Regulations, 5th edition* (2019) at <https://www.fema.gov/media-library/assets/documents/96634>.

Version Two 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 in that chapter are retained.
- International Building Code (IBC) Appendix G (Flood-Resistant Construction) *is not adopted*.
- The provisions for all flood zones (i.e., zones that start with “A” and “V”) are applicable. Communities with Flood Insurance Rate Maps (FIRMs) that show only flood zones that start with “A” should check with NFIP State Coordinators or FEMA Regional Offices for assistance to remove the coastal provisions.

Other versions:

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

NOTES on VERSION TWO 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 for the ordinance to apply to a specific community. Note the title and date of the Flood Insurance Study (FIS) are required and that an optional table can be completed to list effective 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 (also called “auto-adopt”). The second alternative is for States in which communities do not have that authority. Both alternatives have two options, including one that allows communities to list FIRM panels and dates, which most communities do not chose to adopt.

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 a department other than the building department to retain the floodplain management responsibilities that the building codes do not assign to the Building Official. When the Building Official is designated the Floodplain Administrator, the authorities to perform both functions have different origins. This ordinance should not be modified to replace “Floodplain Administrator” with the title of the position designated to serve in that capacity.

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 the Chapter 1 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 or community, 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 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, 5th Edition*, for sample language for several provisions that exceed the minimum requirements of the I-Codes. Higher standards shown as modifications to administrative sections (Chapter 1) and modification of IBC Appendix G can be readily incorporated into this Model Ordinance.

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**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 floodplain management regulations that will be replaced by these regulations and, if applicable, citation(s) to other ordinances that have flood provisions, such as subdivision regulations, that also will be replaced by these regulations}**.

SECTION 101 SCOPE AND 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 Scope. 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.

101.3 Purposes and objectives. The purposes and objectives 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 floodwater or increase flood hazards.
- (5) Contribute to improved construction techniques in the floodplain.
- (6) Minimize damage to public and private facilities and utilities.
- (7) Help maintain a stable tax base by providing for the sound use and development of flood hazard areas.
- (8) Minimize the need for rescue and relief efforts associated with flooding.
- (9) Ensure that property owners, occupants, and potential owners are aware of property located in flood hazard areas.
- (10) Minimize the need for future expenditure of public funds for flood control projects and response to and recovery from flood events.
- (11) Meet the requirements of the National Flood Insurance Program for community participation set forth in Title 44 Code of Federal Regulations, Section 59.22.

101.4 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.

101.5 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.

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

101.7 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}**.

101.8 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 and other developments; site improvements and installation of utilities; placement and replacement of manufactured homes; placement of recreational vehicles; new construction and alterations, repair, reconstruction, rehabilitation or additions of existing buildings and structures; substantial improvement of existing buildings and structures, including repair of substantial 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 modified as follows:

- (1) Modify the 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) Modify the 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) Modify the 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) Modify the 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 shall have the authority to 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 consistent with the intent and purpose 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 and shall not have the effect of waiving specific requirements without the granting of a variance pursuant to Section 107 of these regulations.

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) Review required certifications and documentation specified by these regulations and the building code to determine that such certifications and documentations are complete.
- (6) Establish, in coordination with the Building Official, written procedures for administering and documenting determinations of substantial improvement and substantial damage made pursuant to Section 103.12 of these regulations.
- (7) Coordinate with the Building Official and others to identify and investigate damaged buildings located in flood hazard areas and inform owners of the requirement to obtain permits for repairs.
- (8) Review requests submitted to the Building Official seeking 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 107 of these regulations.
- (9) 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 when 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.
- (10) Require applicants who propose alteration of a watercourse to notify adjacent jurisdictions and the NFIP State Coordinating Agency, and to submit copies of such notifications to the Federal Emergency Management Agency (FEMA).
- (11) Inspect development in accordance with Section 106 of these regulations and inspect flood hazard areas to determine if development is undertaken without issuance of permits.
- (12) Prepare comments and recommendations for consideration when applicants seek variances in accordance with Section 107 of these regulations.
- (13) Cite violations in accordance with Section 108 of these regulations.
- (14) Notify the Federal Emergency Management Agency when the corporate boundaries of **{name of community}** have been modified.

103.5 Use of changed technical data. The Floodplain Administrator and the applicant shall not use changed flood hazard area boundaries or base flood elevations for proposed buildings or developments unless the Floodplain Administrator or applicant has applied for a conditional

Flood Insurance Rate Map (FIRM) revision and has received the approval of the Federal Emergency Management Agency.

103.6 Other permits. It shall be the responsibility of the Floodplain Administrator to assure that approval of proposed development shall not be given until proof that necessary permits have been granted by federal or State agencies having jurisdiction over such development, including section 404 of the Clean Water Act.

103.7 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.

103.8 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.

103.9 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.

103.9.1 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 FEMA.

103.10 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 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.

103.10.1 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.

103.11 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.

103.12 Substantial improvement and substantial damage determinations. For applications for building permits to improve buildings and structures, including alterations, movement, repair, 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, where 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.
- (4) Notify the applicant when 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 and notify the applicant when it is determined that work does not constitute substantial improvement or repair of substantial damage.

103.13 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 Studies, 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 issuance or denial; and records of enforcement actions taken pursuant to these regulations and the flood resistant provisions of the building codes.

103.14 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. Depending on the nature and extent of proposed development that includes a building or structure, the Floodplain Administrator may determine that a floodplain development permit or approval is required in addition to a building 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) Indicate the use and occupancy for which the proposed development is intended.
- (4) Be accompanied by a site plan and construction documents as specified in Section 105 of these regulations, grading and filling plans and other information deemed appropriate by the Floodplain Administrator.
- (5) State the valuation of the proposed work.
- (6) 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 when the proposed development is not commenced within 180 days after its issuance, or when 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 SITE PLANS AND CONSTRUCTION DOCUMENTS

105.1 Information for development in flood hazard areas. The site plan or construction documents for any development subject to the requirements of these regulations shall be drawn to scale and shall include, as applicable to the proposed development:

- (1) Delineation of flood hazard areas, floodway boundaries and flood zone(s), base flood elevation(s), and ground elevations when necessary for review of the proposed development.
- (2) Where base flood elevations or floodway data are not included on the FIRM or in the Flood Insurance Study, they shall be established in accordance with Section 105.2.
- (3) Where the parcel on which the proposed development will take place will have more than 50 lots or is larger than 5 acres and base flood elevations are not included on the FIRM or in the Flood Insurance Study, such elevations shall be established in accordance with Section 105.2(2) of these regulations.
- (4) Location of the proposed activity and proposed structures, and locations of existing buildings and structures; in coastal high hazard areas, new buildings shall be located landward of the reach of mean high tide.
- (5) Location, extent, amount, and proposed final grades of any filling, grading, or excavation.
- (6) Where the placement of fill is proposed, the amount, type, and source of fill material; compaction specifications; a description of the intended purpose of the fill areas; and evidence that the proposed fill areas are the minimum necessary to achieve the intended purpose.
- (7) Extent of any proposed alteration of sand dunes or mangrove stands.
- (8) Existing and proposed alignment of any proposed alteration of a watercourse.

The Floodplain Administrator is authorized to waive the submission of site plans, construction documents, and other data that are required by these regulations but that are not required to be prepared by a registered design professional when it is found that the nature of the proposed development is such that the review of such submissions is not necessary to ascertain compliance.

105.2 Information in flood hazard areas without base flood elevations (approximate Zone A). Where flood hazard areas are delineated on the FIRM and base flood elevation data have not been provided, the applicant shall consult with the Floodplain Administrator to determine whether to:

- (1) Obtain, review and reasonably utilize data available from a federal, State or other source when those data are deemed acceptable to the Floodplain Administrator to reasonably reflect flooding conditions.
- (2) Determine the base 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. Where the data are to be used to support a Letter of Map Change from FEMA, the applicant shall be responsible for satisfying the submittal requirements and pay the processing fees.

105.3 Additional analyses and certifications. As applicable to the location and nature of the proposed development activity, and in addition to the requirements of this section, the applicant

shall have the following analyses signed and sealed by a registered professional engineer for submission with the site plan and construction documents:

- (1) For development activities proposed to be located in a regulatory floodway, a floodway encroachment analysis that demonstrates that the encroachment of the proposed development will not cause any increase in base flood elevations; where the applicant proposes to undertake development activities that do increase base flood elevations, the applicant shall submit such analysis to FEMA as specified in Section 105.4 of these regulations and shall submit the Conditional Letter of Map Revision, if issued by FEMA, with the site plan and construction documents.
- (2) For development activities proposed to be located in a riverine flood hazard area where base flood elevations are included in the FIS or FIRM but floodways have not been designated, hydrologic and hydraulic analyses that demonstrate that the cumulative effect of the proposed development, when combined with all other existing and anticipated flood hazard area encroachments, will not increase the base flood elevation more than one (1) foot at any point within the jurisdiction. This requirement does not apply in isolated flood hazard areas not connected to a riverine flood hazard area or in flood hazard areas identified as Zone AO or Zone AH.
- (3) For alteration of a watercourse, an engineering analysis prepared in accordance with standard engineering practices which demonstrates that the flood-carrying capacity of the altered or relocated portion of the watercourse will not be decreased, and certification that the altered watercourse shall be maintained in a manner which preserves the channel's flood-carrying capacity. The applicant shall submit the analysis to FEMA as specified in Section 105.4 of these regulations. The applicant shall notify the chief executive officer of all affected adjacent jurisdictions and appropriate state agencies and shall provide documentation of such notifications.
- (4) For activities that propose to alter sand dunes or mangrove stands in coastal high hazard areas (Zone V) and Coastal A Zones, an engineering analysis that demonstrates that the proposed alteration will not increase the potential for flood damage.

105.4 Submission of additional data. When additional hydrologic, hydraulic or other engineering data, studies, and additional analyses are submitted to support an application, the applicant has the right to seek a Letter of Map Change from FEMA to change the base flood elevations, change floodway boundaries, or change boundaries of flood hazard areas shown on FIRMs, and to submit such data to FEMA for such purposes. The analyses shall be prepared by a registered professional engineer in a format required by FEMA. Submittal requirements and processing fees shall be the responsibility of the applicant.

SECTION 106 INSPECTIONS

106.1 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.

106.2 Inspections of development. The Floodplain Administrator shall inspect all development in flood hazard areas authorized by issuance of permits under these regulations. The Floodplain

Administrator shall inspect flood hazard areas from time to time to determine if development is undertaken without issuance of a permit.

106.3 Manufactured homes. The Floodplain Administrator shall inspect manufactured homes that are installed or replaced in flood hazard areas to determine compliance with the requirements of these regulations and the conditions of the issued permit. Upon placement of a manufactured home, certification of the elevation of the lowest floor shall be submitted to the Floodplain Administrator prior to the final inspection.

SECTION 107 VARIANCES

107.1 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 submitted by applicants, the considerations for issuance in Section 107.5, the conditions of issuance set forth in Section 107.6, and the comments and recommendations of the Floodplain Administrator and, as applicable, the Building Officials. The **{body to hear variances}** has the right to attach such conditions to variances as it deems necessary to further the purposes and objectives of these regulations, Section R322 of the Residential Code, and Section 1612 of the Building Code.

107.2 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, the historic structure is eligible for the exception in the section in Chapter 12 of the Existing Building Code applicable to historic structures in flood hazard areas, and the variance is the minimum necessary to preserve the historic character and design of the structure.

107.3 Functionally dependent uses. A variance is authorized to be issued for the construction or substantial improvement necessary for the conduct of a functionally dependent use provided the variance is the minimum necessary to allow the construction or substantial improvement, and that all due consideration has been given to use of methods and materials that minimize flood damage during the base flood and create no additional threats to public safety.

107.4 Restrictions in floodways. A variance shall not be issued for any proposed development in a floodway when any increase in flood levels would result during the base flood discharge, as evidenced by the applicable analysis and certification required in Section 105.3(1) of these regulations.

107.5 Considerations. In reviewing requests 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 and the necessity of a waterfront location, where applicable.
- (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 floodwater and the effects of wave action, where applicable, expected at the site.
- (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.

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

- (1) Submission by the applicant of a showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site limit compliance with any provision of these regulations or renders the elevation standards of the building code inappropriate.
- (2) A determination that failure to grant the variance would result in exceptional hardship due to the physical characteristics of the land that render 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.
- (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 108 VIOLATIONS

108.1 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. A building or structure without the documentation of elevation of the lowest floor, other required design certifications, or other evidence of compliance required by the building code is presumed to be a violation until such time as that documentation is provided.

108.2 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.

108.3 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 terms are defined where used in the Residential Code (rather than in the definitions section). Where terms are not defined, such terms shall have ordinarily accepted meanings such as the context implies.

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.

DEVELOPMENT. Any manmade change to improved or unimproved real estate, including but not limited to, buildings or other structures, tanks, temporary structures, temporary or permanent storage of materials, mining, dredging, filling, grading, paving, excavations, drilling 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 perform its intended purpose unless it is located or carried out in close proximity to water, including only docking facilities, port facilities necessary for the loading or unloading of cargo or passengers, and shipbuilding and ship repair facilities. The term does not include long-term storage or related manufacturing facilities.

MANUFACTURED HOME. A structure that is transportable in one or more sections, eight (8) feet or more in width and greater than four hundred (400) square feet, 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 Manufactured 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 these regulations, the term refers to the market value of buildings and structures, excluding the land and other improvements on the parcel. Market value shall be determined by one of the following methods: (1) Actual Cash Value (replacement cost depreciated for age and quality of construction), (2) tax assessment value adjusted to approximate market value by a factor provided by the Property Appraiser, or (3) established by a qualified independent appraiser.

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 U. Buildings and structures of an accessory character and miscellaneous structures 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 AND OTHER DEVELOPMENTS

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.
- (3) Adequate drainage is provided to reduce exposure o flood hazards; in Zones AH and AO, adequate drainage paths shall be provided to guide floodwater around and away from structures.

301.2 Subdivision requirements. Where any portion of proposed subdivisions, including manufactured home parks and subdivisions, lies within a flood hazard area, the following shall be required:

- (1) The flood hazard area, including floodways, coastal high hazard areas, and Coastal A Zones, and base flood elevations, as appropriate, shall be delineated on tentative subdivision plats.

- (2) Residential building lots shall be provided with adequate buildable area outside the floodway.
- (3) The design criteria for utilities and facilities set forth in these regulations and appropriate codes shall be met.

SECTION 401 SITE IMPROVEMENT

401.1 Encroachment in floodways. Development, land disturbing activity, and encroachments in floodways shall not be authorized unless it has been demonstrated through hydrologic and hydraulic analyses required in accordance with Section 105.3(1) of these regulations, that the proposed encroachment will not result in any increase in the base flood level during occurrence of the base flood discharge.

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 and 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 **[State health code citation, if contains applicable requirements]** and Chapter 7, ASCE 24, to minimize or eliminate infiltration of floodwater into the facilities and discharge from the facilities into flood waters, or impairment of the facilities and systems.

401.4 Water facilities. All new and replacement water facilities shall be designed in accordance with **[State health code citation, if contains applicable requirements]** and the provisions of Chapter 7, ASCE 24, to minimize or eliminate infiltration of floodwater 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.

401.7 Limitations on placement of fill. Subject to the limitations of these regulations, fill shall be designed to be stable under conditions of flooding including rapid rise and rapid drawdown of floodwater, prolonged inundation, and protection against flood-related erosion and scour. In addition to these requirements, when intended to support buildings and structures (Zone A only), fill shall comply with the requirements of the building code.

401.8 Limitations on sites in coastal high hazard areas (Zone V) and Coastal A Zones. In coastal high hazard areas and Coastal A Zones, alteration of sand dunes and mangrove stands shall be permitted only when the engineering analysis required by Section 105.3(4) of these regulations demonstrates that the proposed alteration will not increase the potential for flood damage. Construction or restoration of dunes under or around elevated buildings and structures shall comply with Section 801.9(3) of these regulations.

SECTION 501 MANUFACTURED HOMES

501.1 General. All manufactured homes installed in flood hazard areas shall be installed by an installer that is licensed pursuant to state requirements.

501.2 Elevation. All new and replacement manufactured homes to be placed or substantially improved in a flood hazard area shall be elevated such that the bottom of the frame is elevated to or above the elevation specified in Section R322 of the Residential Code.

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

501.4 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 and 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.

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

501.6 Protection of mechanical equipment and outside appliances. Mechanical equipment and outside appliances shall be elevated to or above the elevation of the bottom of the frame required in Section 501.2 of these regulations.

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 501.2, the systems and equipment shall be permitted to be located below that elevation. Electrical wiring systems shall be permitted below the design flood elevation provided they conform to the provisions of NFPA 70 (National Electric Code).

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 DEVELOPMENT AND BUILDING WORK

801.1 General requirements for other development and building work. All development and building work, including man-made changes to improved or unimproved real estate for which specific provisions are not specified in these regulations or the building code, shall:

- (1) Be located and constructed to minimize flood damage;
- (2) Meet the limitations of Section 105.3(1) of this ordinance when located in a regulated floodway;
- (3) Be anchored to prevent flotation, collapse or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the base flood;
- (4) Be constructed of flood damage-resistant materials; and
- (5) Have mechanical, plumbing, and electrical systems above the base flood elevation or meet the requirements of ASCE 24, except that minimum electric service required to address life safety and electric code requirements is permitted below the base flood elevation provided it conforms to the provisions of the electrical part of building code for wet locations.

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

801.3 Fences. Fences in floodways that have the potential to block the passage of floodwater, such as stockade fences and wire mesh fences, shall meet the requirements of Section 105.3(1) of these regulations.

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

801.5 Retaining walls, sidewalks and driveways. Retaining walls, sidewalks and driveways that involve placement of fill in floodways shall meet the requirements of Section 105.3(1) of these regulations.

801.6 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 requirements of Section 105.3(1) of these regulations.

801.7 Roads and watercourse crossings in regulated floodways. Roads and watercourse crossings that encroach into regulated floodways or riverine waterways with base flood elevations where floodways have not been designated, 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 105.3(1) of these regulations.

801.8 Other development in coastal high hazard areas (Zone V) and Coastal A Zones. In coastal high hazard areas and Coastal A Zones, development activities other than buildings and

structures shall be permitted only when also authorized by the appropriate federal, state or local authority; when located outside the footprint of, and not structurally attached to, buildings and structures; and when analyses prepared by qualified registered design professionals demonstrate no harmful diversion of floodwater or wave runup and wave reflection that would increase damage to adjacent buildings and structures. Such other development activities include but are not limited to:

- (1) Bulkheads, seawalls, retaining walls, revetments, and similar erosion control structures;
- (2) Solid fences and privacy walls, and fences prone to trapping debris, unless designed and constructed to fail under flood conditions less than the base flood or otherwise function to avoid obstruction of floodwater; and
- (3) On-site filled or mound sewage systems.

801.9 Nonstructural fill in coastal high hazard areas (Zone V) and Coastal A Zones. In coastal high hazard areas and Coastal A Zones:

- (1) Minor grading and the placement of minor quantities of nonstructural fill shall be permitted for landscaping and for drainage purposes under and around buildings.
- (2) Nonstructural fill with finished slopes that are steeper than one unit vertical to five units horizontal shall be permitted only when an analysis prepared by a qualified registered design professional demonstrates no harmful diversion of floodwater or wave runup and wave reflection that would increase damage to adjacent buildings and structures.
- (3) Sand dune construction and restoration of sand dunes under or around elevated buildings are permitted without additional engineering analysis or certification of the diversion of floodwater or wave runup and wave reflection where the scale and location of the dune work is consistent with local beach-dune morphology and the vertical clearance is maintained between the top of the sand dune and the lowest horizontal structural member of the building.

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 base 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 105.3(1) of these regulations.

SECTION 1001 UTILITY AND MISCELLANEOUS GROUP U

1001.1 Utility and Miscellaneous Group U. In accordance with Section 312 of the building code, utility and miscellaneous Group U includes buildings and structures 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, communication equipment structures (gross floor area

less than 1,500 sq. ft.), fences more than 6 feet (1829 mm) high, grain silos (accessory to a residential occupancy), livestock shelters, private garages, retaining walls, sheds, stables, tanks 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 base 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 base flood elevation in accordance with ASCE 24.

1001.4 Enclosures below base 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 base 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 base 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 base 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 base flood elevation in compliance with the flood-resistant construction requirements of this code. Electrical wiring systems shall be permitted to be located below the base flood elevation provided they conform to the provisions of NFPA 70 (National Electric Code).

SECTION 3. SEVERABILITY.

Where 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.

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

[Jurisdiction to add signature blocks.]