ARTICLE X

SUMNER COUNTY FLOOD DAMAGE PREVENTION PROVISIONS

1. STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND OBJECTIVES

1.1 Statutory Authorization

The Legislature of the State of Tennessee has in Sections 13-7-101 through 13-7-115, Tennessee Code Annotated, delegated the responsibility to the County legislative body to adopt floodplain regulations designed to minimize danger to life and property and to allow its citizens to participate in the National Flood Insurance Program. Therefore, the Board of County Commissioners of Sumner County, Tennessee, does resolve as follows:

1.2 Findings of Fact

1. The Sumner County Board of County Commissioners wishes to maintain eligibility in the National Flood Insurance Program and in order to do so must meet the requirements of 60.3 of the Federal Insurance Administration Regulations found at 44 CFR Ch. 1 (10-1-04 Edition).

2. Areas of Sumner County are subject to periodic inundation which could 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.

3. These flood losses are caused by the cumulative effect of obstructions in floodplains, causing increases in flood heights and velocities; by uses in flood hazard areas which are vulnerable to floods; or construction which is inadequately elevated, flood proofed, or otherwise unprotected from flood damages.

1.3 Statement of Purpose

It is the purpose of this article to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas. This article is designed to:

1. Restrict or prohibit uses which are vulnerable to water or erosion hazards, or which result in damaging increases in erosion, flood heights, or velocities;

2. Require that uses vulnerable to floods, including County facilities, be protected against flood damage at the time of initial construction;

3. Control the alteration of natural floodplains, stream channels, and natural protective barriers that are involved in the accommodation floodwaters;

4. Control filling, grading, dredging and other development which may increase flood damage of erosion, and;

5. Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.

1.4 Objectives

The objectives of this article are:

1. To protect human life, health and property;

2. To minimize expenditure of public funds for costly flood control projects;

3. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

4. To minimize prolonged business interruptions;

5. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodable areas;

6. To help maintain a stable tax base by providing for the sound use and development of flood prone areas in such a manner as to minimize blight in flood areas;

7. To ensure that potential homebuyers are notified that property is in a floodable area; and

8. To maintain eligibility for participation in the National Flood Insurance Program.

2. DEFINITIONS

Unless specifically defined below, words or phrases used in this article shall be interpreted as to give them the meaning they have in common usage and to give this article it's most reasonable application given its stated purpose and objectives.

Accessory Structure: Shall represent a subordinate structure to the principal structure and, for the purpose of this section, shall conform to the following:

1. Accessory structures shall not be used for human habitation.

2. Accessory structures shall be designed to have low flood damage potential.

3. Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters.

4. Accessory structures shall be firmly anchored to prevent flotation, which may result in damage to other structures.

5. Service facilities such as electrical and heating equipment shall be elevated or floodproofed.

Act: Means the statutes authorizing the National Flood Insurance Program that are incorporated in 42 U.S.C. 4001-4128.

Addition (To An Existing Building): Means any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other than a firewall. Any walled and roofed addition, which is connected by a firewall or is separated by an independent perimeter load-bearing wall, shall be considered *"New Construction"*.

Appeal: Means a request for a review of the local enforcement officer's interpretation of any provision of this article or a request for a variance.

Area of Shallow Flooding: Means a designated *AO or AH* Zone on a community's Flood Insurance Rate Map (FIRM) with one (1) percent or greater annual chance of flooding to an average depth of one to three feet (1' - 3') where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate; and where velocity flow may be evident. (Such flooding is characterized by ponding or sheet flow)

Area of Special Flood-Related Erosion Hazard: Is the land within a community, which is most likely to be subject to severe flood-related erosion losses. The area may be designated as *Zone E* on the *Flood Hazard Boundary MAP (FHBM)*. After the detailed evaluation of the special flood-related erosion hazard area in preparation for publication of the FIRM, *Zone E* may be further refined.

Area of Special Flood Hazard: Is the land in the floodplain within a community subject to a one (1) percent or greater chance of flooding in any given year. The area may be designated as *Zone A* on the *FHBM*. After detailed ratemaking has been completed in preparation for publication of the *FIRM, Zone A*, usually is refined into *Zones A, AO, AH, A1-30, AE, or A99*..

Base Flood: Means the flood having a one (1) percent chance of

being equaled or exceeded in any given year.

Basement: Means that portion of a building having its floor subgrade (below ground level) on all sides.

Breakaway Wall: Means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

Building: Means any structure built for support, shelter, or enclosure for any occupancy or storage. (See *"Structure"*)

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

Elevated Building: Means a non-basement building built to have the lowest floor of the lowest enclosed area elevated above the ground level by means of fill, solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of floodwater, pilings, columns, piers, or shear walls adequately anchored so as not to impair the structural integrity of the building during a base flood event.

Emergency Flood Insurance Program or Emergency Program: Means the program as implemented on an emergency basis in accordance with *Section 1336 of the Act*. It is intended as a program to provide a first layer amount of insurance on all insurable structures before the effective date of the initial *FIRM*.

Erosion: Means the process of the gradual wearing away of landmasses. This peril is not per se covered under the Program.

Exception: Means a waiver from the provisions of this article which relieves the applicant from the requirements of a rule, regulation, order or other determination made or issued pursuant to this article.

Existing Construction; Means any structure for which the *"start of construction"* commenced before the effective date of the first floodplain management code or Resolution adopted by the community as a basis for that community's participation in the National Flood Insurance Program (NFIP).

Existing Manufactured Home Park or Subdivision: Means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, final site grading or the pouring of concrete pads) is completed

before the effective date of the first floodplain management code or Resolution adopted by the community as a basis for that community's participation in the National Flood Insurance Program (NFIP).

Existing Structures SEE Existing Construction.

Expansion to an Existing Manufactured Home Park or Subdivision: Means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads.)

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

(1) The overflow of inland or tidal waters;

(2) The unusual and rapid accumulation runoff of surface waters from any source.

Flood Elevation Determination: Means a determination by the Building Commissioner of the water surface elevations of the base flood, that is, the flood level that has a one (1) percent or greater chance of occurrence in any given year.

Flood Elevation Study: Means an examination, elevation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) or flood-related erosion hazards.

Flood Hazard Boundary Map (FHBM): Means an official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of areas of special flood hazard have been designated as *Zone A*.

Flood Insurance Rate Map (FIRM): Means an official map of a community, issued by the Federal Emergency Management Agency, delineating the areas of special flood hazard or the risk premium zones applicable to the community.

Flood Insurance Study: Is the official report provided by the Federal Emergency Management Agency, evaluating flood hazards and containing flood profiles and water surface elevation of the base flood.

Floodplain or Flood-Prone Area: Means any land area susceptible to being inundated by water from any source (see definition of "Flood or Flooding").

Floodplain Management: Means the operation of an overall program of corrective and preventive measures for reducing flood

damage, including but not limited to emergency preparedness plans, flood control works and floodplain management regulations.

Flood Protection System: Means those physical structural works for which funds have been authorized, appropriated, and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the area within a community subject to a "special flood hazard" and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood modifying works are those constructed in conformance with sound engineering standards.

Flood proofing: Means any combination of structural and nonstructural additions, changes, or adjustments to structures, which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Flood-Related Erosion: Means the collapse or subsidence of land along the shore of a lake or other body of water as a result of undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a flash flood or by some similarly unusual and unforeseeable event which results in flooding.

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

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

Floodway: Means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

Floor: Means the top surface of an enclosed area in a building (including basement), i.e., top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles.

Freeboard: Means a factor of safety usually expressed in feet above a flood level for purposes of floodplain management.

"Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings and the hydrological effect of urbanization of the watershed.

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

Highest Adjacent Grade: Means the highest natural elevation of the ground surface, prior to construction, adjacent to the proposed walls of a structure.

Historic Structure: Means any structure that is:

1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminary determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

3. Individually listed on the Tennessee inventory of historic places and determined as eligible by states with historic preservation programs which have been approved by the Secretary of the Interior; or

4. Individually listed on a local inventory or historic places and determined as eligible by communities with historic preservation programs that have been certified either:

   (a) By an approved state program as determined by the Secretary of the Interior, or

   (b) Directly by the Secretary of the Interior.

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

Levee System: Means a flood protection system which consists of a levee, or levees, and associated structures, such as closure

and drainage devices, which are constructed and operated in accordance with sound engineering practices.

Lowest Floor: Means the lowest floor of the lowest enclosed area, including a basement. An unfinished or flood resistant enclosure used solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this article.

Manufactured Home: Means a structure, transportable in one or more sections, which is built on a permanent chassis and designed for use with or without a permanent foundation when attached to the required utilities. The term *"Manufactured Home"* does not include a *"Recreational Vehicle"*, unless such transportable structures are placed on a site for one hundred eighty (180) consecutive days or longer.

Manufactured Home Park or Subdivision: Means a parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

Map: Means the Flood Hazard Boundary Map (FHBM) or the Flood Insurance Rate Map (FIRM) for a community issued by the Agency.

Mean-Sea-Level: Means the average height of the sea for all stages of the tide. It is used as a reference for establishing various elevations within the floodplain. For purposes of this article, the term is synonymous with National Geodetic Vertical Datum (NGVD) or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.

National Geodetic Vertical Datum (NGVD): As corrected in 1929 is a vertical control used as a reference for establishing varying elevations within the floodplain.

New Construction: Means any structure for which the *"start of construction"* commenced after the effective date of this article or the effective date of the first Floodplain Management Resolution and includes any subsequent improvements to such structure.

New Manufactured Home Park or Subdivision: Means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed after the effective date of this article or the effective date of the first Floodplain Management Resolution and includes any subsequent improvements to such structure.

North American Vertical Datum (NAVD: As corrected in 1988 is a vertical control used as a reference for establishing varying elevations within the floodplain.

100-Year Flood see *"BASE FLOOD"*.

Person: Includes any individual or group of individuals, corporation, partnership, association, or any other entity, including State and local governments and agencies.

Recreational Vehicle: Means a vehicle which is:

1. Built on a single chassis;

2. Four hundred (400) square feet or less when measured at the largest horizontal projection;

3. Designed to be self-propelled or permanently towable by a light duty truck; and

4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use.

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

Riverine: Means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

Special Hazard Area: Means an area having special flood, mudslide (i.e., mudflow) and/or flood-related erosion hazards, and shown on an FHBM or FIRM as *Zone A, AO,A1-30,AE,A99, or AH.*

Start of Construction: Includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement was within one hundred eighty (180) days of the permit date. The actual start means either the first placement of permanent construction of a structure (including a manufactured home) on a site, such as the pouring of slabs or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; and includes the placement of a manufactured home on a foundation. Permanent construction does not include initial land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as

dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

State Coordinating Agency: The Tennessee Department of Economic and Community Development's, Local Planning Assistance Office, as designated by the Governor of the State of Tennessee at the request of the Building Commissioner to assist in the implementation of the National Flood Insurance Program for the state.

Structure: For purposes of this section, means a walled and roofed building that is principally above ground, a manufactured home, a gas or liquid storage tank, or other man-made facilities or infrastructures.

Substantial Damage: Means damage of any origin sustained by a structure whereby the cost of restoring the structure to it's before damaged condition would equal or exceed fifty (50) percent of the market value of the structure before the damage occurred.

Substantial Improvement: Means any repairs, reconstruction's, rehabilitation's, additions, alterations, or other improvements to a structure, taking place during a five (5) year period, in which the cumulative cost equals or exceeds fifty (50) percent of the market value of the structure before the *"start of construction"* of the improvement. The market value of the structure should be;

1. The appraised value of the structure prior to the start of the initial repair or improvement, or;

2. In the case of damage, the value of the structure prior to the damage occurring.

This term includes structures which have incurred *"substantial damage"*, regardless of the actual repair work performed.

For the purpose of this definition, *"Substantial Improvement"* is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the building. The term does not, however, include either:

1. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been pre-identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions and not

solely triggered by an improvement or repair project or;

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

Substantially Improved Existing Manufactured Home Parks or Subdivisions: Is where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds fifty (50) percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

Variance: Is a grant of relief from the requirements of this article, which permits construction in a manner otherwise prohibited by this article where specific enforcement would result in unnecessary hardship.

Violation: Means the failure of structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certification, or other evidence of compliance required in this article is presumed to be in violation until such time as that documentation is provided.

Water Surface Elevation: Means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, (or other datum, where specified) of floods of various magnitudes and frequencies in the flood plains of riverine areas.

3. GENERAL PROVISIONS

3.1 Application
This article shall apply to all areas within the incorporated area of Sumner County, Tennessee

3.2 Basis for establishing the areas of Special Flood Hazard:
The Areas of Special Flood Hazard identified on the Sumner County, Tennessee, *Federal Emergency Management Agency, Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM), Community Panel Numbers*:

0025, 0050, 0075, 0100, 0125, 0127, 0131, 0132, 0133, 0134, 0150, 0175, 0200, 0225, 0257, 0259, 0264, 0267, 0269, 0270, 0280, 0285, 0288, 0290, 0291, 0293, 0295, 0305, 0310, 0312, 0313, 0314, 0316, 0317 0318, 0319, 0330, 0335, 0340, 0345, 0381, 0382, 0833, 0384, 0401, 0402, 0403, 0404, 0406, 0407, 0408, 0409, 0411, 0412, 0414, 0416, 0417, 0419, 0426, 0427, 0428, 0429, 0431, 0432, 0433, 0434, 0436, 0441, 0442, 0455, 0460, 0465, dated , September 26, 2006, along with all supporting technical data, are adopted by reference and declared to be a part of this article.

3.3 Requirement for Development Permit: A development permit shall be required in conformity with this article prior to the commencement of any development activities.

3.4 Compliance: No land, structure or use shall hereafter be located, extended, converted or structurally altered without full compliance with the terms of this article and other applicable regulations.

3.5 Abrogation and Greater Restrictions: This article is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this article conflicts or overlaps with another regulatory instrument, whichever imposes the more stringent restrictions shall prevail.

3.6 Interpretation: In the interpretation and application of this article, all provisions shall be:

1. Considered as minimum requirements;
2. Liberally construed in favor of the governing body, and;
3. Deemed neither to limit nor repeal any other powers granted under Tennessee statutes.

3.7 Warning and Disclaimer of Liability: The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This article does not imply that land outside the Areas of Special Flood Hazard or uses permitted within such areas will be free from flooding or flood damages. This article shall not create liability on the part of Sumner County, Tennessee or by any officer or employee thereof for any flood damages that result from reliance on this article or any administrative decision lawfully made hereunder.

3.8 Penalties for Violation: Violation of the provisions of this article or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance shall constitute a misdemeanor punishable as other misdemeanors as provided by law. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent Sumner County, Tennessee from taking such other lawful actions to prevent or remedy any violation.

4. ADMINISTRATION

4.1 Designation of Resolution Administrator: The Building Commissioner is hereby appointed as the Administrator to implement the provisions of this Resolution.

4.2 Permit Procedures: Application for a development permit shall be made to the Building Commissioner on forms furnished by the community prior to any development activities. The development permit may include, but is not limited to the following: Plans in duplicate drawn to scale and showing the nature, location, dimensions, and elevations of the area in question; Existing or proposed structures, earthen fill placement, storage of materials or equipment, and drainage facilities. Specifically, the following information is required:

4.2(1) Application Stage

(a) Elevation in relation to mean-sea-level of the proposed lowest floor, including basement, of all buildings where BFE's are available, or to the highest adjacent grade when applicable under this article.

(b) Elevation in relation to mean-sea-level to which any non-residential building will be flood proofed where BFE's are available, or to the highest adjacent grade when applicable under this article.

(c) Design certificate from a registered professional engineer or architect that the proposed non-residential flood proofed building will meet the flood proofing criteria in *Article "X", Section 4, Subsection 4.2.*

(d) Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

4.2(2) Construction Stage: Within un-numbered *"A" Zones*, where flood elevation data are not available, the Building Commissioner shall record the elevation of the lowest floor on the development permit. The elevation of the lowest floor shall be determined as the measurement of the lowest floor of the building relative to the highest adjacent grade.

For all new construction and substantial improvements, the permit holder shall provide to the Building Commissioner an as-built certification of the regulatory floor elevation or flood proofing level upon the completion of the lowest floor or flood proofing. Within un-numbered *"A" Zones*, where flood elevation data is not available, the

elevation of the lowest floor shall be determined as the measurement of the lowest floor of the building relative to the highest adjacent grade. Any lowest floor certification made relative to mean-sea-level shall be prepared by or under the direct supervision of, a registered land surveyor and certified by same. When flood proofing is utilized for a non-residential building said certification shall be prepared by or under the direct supervision of, a professional engineer or architect and certified by same.

Any work undertaken prior to submission of the certification shall be at the permit holder's risk. The Building Commissioner shall review the above-referenced certification data. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further work being allowed to proceed. Failure to submit the certification or failure to make said corrections required hereby shall be cause to issue a stop-work order for the project.

4.3 Duties and Responsibilities of the Building Commissioner

Duties of the Building Commissioner shall include, but not be limited to:

1. Review of all development permits to assure that the permit requirements of this article have been satisfied, and that proposed building sites will be reasonably safe from flooding.

2. Advice to permittee that additional federal or state permits may be required, and if specific federal or state permit requirements are know, require that copies of such permits be provided and maintained on file with the development permit. This shall include Section-404 of the Federal Water Pollution Control Act Amendments of 1972, 33-U.S.C.-1334.

3. Notification to adjacent communities and the Tennessee Department of Economic and Community Development, Local Planning Assistance Office, prior to any alteration or relocation of a watercourse, and submission of evidence of such notification to the Federal Emergency Management Agency.

4. For any altered or relocated watercourse, submit engineering data/analysis within six (6) months to the Federal Emergency Management Agency to ensure accuracy of community flood maps through the Letter of Map Revision process. Assure that the flood carrying capacity within an altered or relocated portion of any

watercourse is maintained.

5. Record the elevation, in relation to mean-sea-level or the highest adjacent grade, where applicable of the lowest floor including basement of all new or substantially improved buildings, in accordance with *Article X, Section 4, Subsection 4.2.*

6. Record the actual elevation; in relation to mean-sea-level or the highest adjacent grade, where applicable to which the new or substantially improved buildings have been flood proofed, in accordance with *Article X, Section 4, Subsection 4.2.*

7. When flood proofing is utilized for a structure, the Building Commissioner shall obtain certification of design criteria from a registered professional engineer or architect, in accordance with *Article X, Section 4, Subsection 4.2.*

8. Where interpretation is needed as to the exact location of boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the Building Commissioner shall make the necessary interpretation. Any person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.

9. When base flood elevation data or floodway date have not been provided by the Federal Emergency Management Agency then the Building Commissioner shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, State, or other sources, including data developed as a result of these regulations, as criteria for requiring that new construction, substantial improvements, or other development in *Zone "A"*, on the Community FIRM meet the requirements of this article.

   Within un-numbered *"A" Zones*, where base flood elevations have not been established and where alternative data is not available, the Building Commissioner shall require the lowest floor of a building to be elevated or flood proofed to a level of at least three (3) feet above the highest adjacent grade (lowest floor and highest adjacent grade being defined in Section 2, of this article). All applicable data including elevations or flood proofing certifications shall be recorded as set forth in *Article X, Section 4, Subsection 4.2.*

10. All records pertaining to the provisions of this article shall be maintained in the office of the Building

Commissioner and shall be open for public inspection. Permits issued under the provisions of this article shall be maintained in a separate file or marked for expedited retrieval within combined files.

5. PROVISIONS FOR FLOOD HAZARD REDUCTION

5.1 General Standards

In all flood prone areas the following provisions are required:

1. New construction and substantial improvements to existing buildings shall be anchored to prevent flotation, collapse or lateral movement of the structure;

2. Manufactured homes shall be elevated and anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable state requirements for resisting wind forces;

3. New construction and substantial improvements to existing buildings shall be constructed with materials and utility equipment resistant to flood damage;

4. New construction or substantial improvements to existing buildings shall be constructed by methods and practices that minimize flood damage;

5. All electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;

6. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;

7. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters;

8. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding;

9. Any alteration, repair, reconstruction or improvements to a building that is in compliance with the provisions

of this article, shall meet the requirements of *"new construction"* as contained in this article; and,

10. Any alteration, repair, reconstruction or improvements to a building that is not in compliance with the provision of this article, shall be undertaken only if said non-conformity is not further extended or replaced.

5.2 Specific Standards

These provisions shall apply to ALL Areas of Special Flood Hazard, as provided herein:

5.2(1) Residential Construction.

Where base flood elevation data is available, new construction or substantial improvement of any residential building (or manufactured home) shall have the lowest floor, including basement, elevated no lower than one (1) foot above the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate equalization of flood hydrostatic forces on both sides of exterior walls and to ensure unimpeded movement of floodwater shall be provided in accordance with the standards of *Article "X", Section 5, Subsection 5.2.*

Within unnumbered *"A" Zones*, where base flood elevations have not been established and where alternative data is not available, the Building Commissioner shall require the lowest floor of a building to be elevated or flood proofed to a level of at least three (3) feet above the highest adjacent grade (lowest floor and highest adjacent grade being defined in Section 2, of this article). All applicable data including elevations or flood proofing certifications shall be recorded as set forth in *Article "X", Section 4, Subsection 4.2.*

5.2(2) Non-Residential Construction.

New construction or substantial improvement of any commercial, industrial, or non-residential building, when BFE data is available, shall have the lowest floor, including basement, elevated or flood proofed no lower than one (1) foot above the level of the base flood elevation.

Within unnumbered *"A" Zones*, where base flood elevations have not been established and where alternative data is not available, the Building Commissioner shall require the lowest floor of a

building to be elevated or flood proofed to a level of at least three (3) feet above the highest adjacent grade (lowest floor and highest adjacent grade being defined in Section 2, of this article). All applicable data including elevations or flood proofing certifications shall be recorded as set forth in *Article "X", Section 4, Subsection 4.2.*

Buildings located in all *"A" Zones* may be flood proofed, in lieu of being elevated, provided that all areas of the building below the required elevation are watertight, with walls substantially impermeable to the passage of water, and are built with structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. A registered professional engineer or architect shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions above, and shall provide such certification to the Building Commissioner as set forth in *Article "X", Section 4, Subsection 4.2.*

5.2(3) Elevated Building.

All new construction or substantial improvements to existing buildings that include ANY fully enclosed areas formed by foundation and other exterior walls below the base flood elevation, or required height above the highest adjacent grade, shall be designed to preclude finished living space and designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls.

(a) Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria;

(1) Provide a minimum of two (2) openings having a total net area of not less that one (1) square inch for every square foot of enclosed area subject to flooding;

(2) The bottom of all openings shall be no higher than one (1) foot above the finish grade; and

(3) Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both

directions.

(b) Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the elevated living area (stairway or elevator); and

(c) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms in such a way as to impede the movement of floodwaters and all such petitions shall comply with the provisions of *Section 5, Subsection 5.2,* of this article.

5.2(4) Standards for Manufactured Homes and Recreational Vehicles.

(a) All manufactured homes placed, or substantially improved, on:

(1) Individual lots or parcels;

(2) In expansions to existing manufactured home parks or subdivisions, or

(3) In new or substantially improved manufactured home parks or subdivisions, must meet all the requirements of new construction, including elevations and anchoring.

(b) All manufactured homes placed or substantially improved in an existing manufactured home park or subdivision must be elevated so that either;

(1) When base flood elevations are available the lowest floor of the manufactured home is elevated on a permanent foundation no lower than one (1) foot above the level of the base flood elevation; or,

(2) Absent base flood elevations the manufactured home chassis is elevated and supported by reinforced piers (or other foundation elements) at least three (3) feet in height above the highest adjacent grade.

(c) Any manufactured home which has incurred *"substantial damage"* as the result of a flood

or that has substantially improved must meet the standards of *Section 5, Subsection 5.2, Subpart 4*, of this article.

(d) All manufactured homes must be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

(e) All recreational vehicles placed on identified flood hazard sites must either;

(1) Be on the site for fewer than one hundred-eighty (180) consecutive days;

(2) Be fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is licensed, on its wheels or jacking system, attached to the site only by quick disconnect types utilities and security devices, and has no permanently attached structures or additions.

(3) The recreational vehicle must meet all the requirements for new construction, including the anchoring and elevation requirements of this section above if on the site for longer than one hundred eighty (180) consecutive days.

5.2(5) Standards for Subdivisions

Subdivisions and other proposed new developments, including manufactured home parks, shall be reviewed to determine whether such proposals will be reasonably safe from flooding. If a subdivision proposal or other proposed new development is in a flood prone area, any such proposals shall be reviewed to ensure that;

(a) All subdivision proposals shall be consistent with the need to minimize flood damage.

(b) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

(c) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards.

(d) Base flood elevation data shall be provided for subdivision proposals and other proposed developments (including manufactured home parks and subdivisions) that are greater than fifty (50) lots and/or five (5) acres in area.

5.3 Standards for Areas of Special Flood Hazard with Established Base Flood Elevations and with Floodways Designated.

Located within the Areas of Special Flood Hazard established in *Article "X", Section 3, Subsection 3.2,* are areas designated as floodways. A floodway may be an extremely hazardous area due to the velocity of floodwaters, debris or erosion potential. In addition, the area must remain free of encroachment in order to allow for the discharge of the base flood without increased flood heights and velocities. Therefore, the following provisions shall apply;

1. Encroachments are prohibited, including earthen fill material, new construction, substantial improvements or other developments within the regulatory floodway. Development may be permitted however, provided it is demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the cumulative effect of the proposed encroachments or new development, when combined with all other existing and anticipated development, shall not result in ANY increase the water surface elevation of the base flood level, velocities or floodway widths during the occurrence of a base flood discharge at any point within the community. A registered professional engineer must provide supporting technical data and certification thereof.

2. New construction or substantial improvements of buildings shall comply with all applicable flood hazard reduction provisions of *Article "X", Section 5.*

5.4 Standards for Areas of Special Flood Hazard Zones "AE" with Established Base Flood Elevations but without Floodways Designated.

Located within the Areas of Special Flood Hazard established in *Article "X", Section 3, Subsection 3.2,* where streams exist with base flood data provided but where no floodways have been designated, *(Zones AE)* the following provisions apply;

1. No encroachments, including fill material, new structures or substantial improvements shall be located within areas of special flood hazard, unless certification by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the community. The engineering certification should be supported by technical data that conforms to standard hydraulic engineering principles.

2. New construction or substantial improvements of buildings shall be elevated or flood proofed to elevations established in accordance with *Article X, Section 5, Subsection 5.2.*

5.5 Standards for Streams without Established Base Flood Elevations or Floodways ("A" ZONES).

Located within the Areas of Special Flood Hazard established in *Article "X", Section 3,* where streams exist, but no base flood data has been provided ("A" Zones), or where a Floodway has not been delineated, the following provisions shall apply;

1. When base flood elevation data or floodway data have not been provided in accordance with *Article "X", Section 3,* then the Building Commissioner shall obtain, review and reasonably utilize any scientific or historic base flood elevation and floodway data available from a Federal, State or other source, in order to administer the provisions of *Article "X", Section 5,* ONLY if data is not available from these sources, then the following provisions (2 & 3) shall apply.

2. No encroachments, including structures or fill material, shall be located within an area equal to the width of the stream or twenty (20) feet, whichever is greater, measured from the top of the stream bank, unless certification by registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more

than one (1) foot at any point within the community. The engineering certification should be supported by technical data that conforms to standard hydraulic engineering principles.

3. In special flood hazard areas without base flood elevation data, new construction or substantial improvements of existing shall have the lowest floor of the lowest enclosed area (including basement) elevated no less than three (3) feet above the highest adjacent grade at the building site. Openings sufficient to facilitate the unimpeded movements of floodwaters shall be provided in accordance with the standards of *Article "X", Section 5, Subsection 5.2,* and *"Elevated Buildings".*

5.6 Standards for Areas of Shallow Flooding ("AO" AND "AH" ZONES)

Located within the Areas of Special Flood Hazard established in *Article "X", Section 3, Subsection 3.2,* are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of one to three feet (1′ - 3′) where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate; therefore, the following provisions apply:

1. All new construction and substantial improvements of residential and non-residential buildings shall have the lowest floor, including basement, elevated to at least one (1) foot above the flood depth number specified on the Flood Insurance Rate Map (FIRM), in feet, above the highest adjacent grade. If no flood depth number is specified, the lowest floor, including basement, shall be elevated, at least three (3) feet above the highest adjacent grade. Openings sufficient to facilitate the unimpeded movements of floodwaters shall be provided in accordance with standards of *Article X, Section 5, Subsection 5.2,* and *"Elevated Buildings".*

2. All new construction and substantial improvements of nonresidential buildings may be flood proofed in lieu of elevation. The structure together with attendant utility and sanitary facilities must be flood proofed and designed watertight to be completely flood

proofed to at least one (1) foot above the specified FIRM flood level, with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. It no depth number is specified, the lowest floor, including basement, shall be flood proofed to at least three (3) feet above the highest adjacent grade. A registered professional engineer or architect shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this article and shall provide such certification to the Building Commissioner, as set forth above and as required in *Article "X", Section 4, Subsection 4.2.*

3. Adequate drainage paths shall be provided around slopes to guide floodwaters around and away from proposed structures.

4. The Building Commissioner shall certify the elevation or the highest adjacent grade, where applicable, and the record shall become a permanent part of the permit file.

5.7 Standards for Areas Protected by Flood Protection System (A-99 Zones)

Located within the areas of special flood hazard established in *Article "X", Section 3*, are areas of the 100-year floodplain protected by a flood protection system but where base flood elevations and flood hazard factors have not been determined. Within these areas (A-99 Zones) all provisions of *Article "X", Section 4, Subsection 4.1 and Section 5, Subsection 5.1*, shall apply.

5.8 Standards for Unmapped Steams

Located within Sumner County, Tennessee are unmapped streams where areas of special flood hazard are neither indicated nor identified. Adjacent to such streams the following provisions shall apply:

1. In areas adjacent to such unmapped streams, no encroachments including fill material or structures shall be located within an area of at least equal to twice the width of the stream, measured from the top of each stream

bank, unless certification by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the locality.

2. When new elevation data is available, new construction or substantial improvements of buildings shall be elevated or flood proofed to elevations established in accordance with *Article "X", Section 4*.

6. VARIANCE PROCEDURES

The provisions of this section shall apply exclusively to Areas of Special Flood Hazard within the unincorporated areas of Sumner County, Tennessee.

6.1 General

1. The Sumner County Board of Appeals shall hear and decide appeals and requests for variances from the requirements of this article.

2. Variances may be issued for the repair or rehabilitation of historic structures (see definition) 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 to preserve the historic character and design of the structure.

3. In passing upon such applications, the Board of Appeals shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this article, and:

   (a) The danger that materials may be swept onto other property to the injury of others;

   (b) The danger to life and property due to flooding or erosion;

   (c) The susceptibility of the proposed facility and its contents to flood damage;

   (d) The importance of the services provided by the proposed facility to the County;

   (e) The necessity of the facility to a waterfront

location, in the case of a functionally dependent facility;

(f) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;

(g) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

(h) The safety of access to the property in times of flood for ordinary and emergency vehicles;

(i) The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site, and;

(j) The costs of providing governmental services during and after flood conditions including maintenance and repair of pubic utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.

4. Upon consideration of the factors listed above, and the purposes of this article, the Board of Appeals may attach such conditions to the granting of the variances, as it deems necessary to effectuate the purposes of this article.

5. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

6.2 Conditions for Variances

1. Variances shall be issued upon a determination that the variance is the minimum relief necessary, considering the flood hazard; and in the instance of a historical building, a determination that the variance is the minimum relief necessary so as not to destroy the historic character and design of the building.

2. Variances shall only be issued upon: a showing of good and sufficient cause, a determination that failure to grant the variance would result in exceptional hardship; and a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or Resolutions.

3. Any applicant to whom a variance is granted shall be given written notice that the issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance, and that such construction below the base flood level increases risks to life and property.

4. The Building Commissioner shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

7. LEGAL STATUS PROVISIONS

7.1 Conflict with Other Resolutions

In case of conflict between this article or any part thereof, and the whole or part of any existing or future Resolution of Sumner County, Tennessee, the most restrictive shall in all cases apply.

7.2 Validity

If any section, clause, provision, or portion of this article shall be held to be invalid or unconstitutional by any court of competent jurisdiction, such holding shall not affect any other section, clause, provision, or portion of this article which is not of itself invalid or unconstitutional.