

**STATE OF SOUTH CAROLINA )  
  )  
COUNTY OF BAMBERG            )**

**ORDINANCE #19-09-01**

**FLOOD DAMAGE PREVENTION ORDINANCE**

**WHEREAS:**

1.     **FINDINGS OF FACT.**

- (1)    The flood hazard areas of Bamberg County are subject to periodic inundation which results 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.
  
- (2)    These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, flood-proofed, or otherwise unprotected from flood damages.

2.     **STATUTORY AUTHORIZATION.**

The Legislature of the State of South Carolina has in South Carolina Code of Laws, Title 4, Chapters 9 (Article 1), 25, and 27, and amendments thereto, delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the County of Bamberg, South Carolina does ordain as follows:

**NOW THEREFORE BE IT ORDAINED BY THE BAMBERG COUNTY COUNCIL THAT:**

**ARTICLE 1.         PURPOSE AND OBJECTIVES.**

**SECTION A.         STATEMENT OF PURPOSE.**

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

- (1)    restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
  
- (2)    require that uses vulnerable to floods, including facilities which were such uses, be protected against flood damage at the time of initial construction;
  
- (3)    control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;

- (4) control filling, grading, dredging and other development which may increase erosion or flood damage, and;
- (5) prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.

SECTION B. OBJECTIVES.

The objectives of this ordinance are:

- (1) to protect human life and health;
- (2) to minimize expenditure of public money for costly flood control projects;
- (3) to minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) to minimize prolonged business interruptions;
- (5) to minimize damage to public facilities and utilities such as water to gas mains, electric, telephone and sewer lines, street and bridges located in floodplains;
- (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 flood blight areas, and;
- (7) to insure that potential home buyers are notified that property is in a flood area.

ARTICLE 2. DEFINITIONS.

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

**“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 fire wall. Any walled and roofed addition which is connected by a fire wall or is separated by independent perimeter load-bearing walls is new construction.

**“Appeal”** means a request for a review of the Building / Planning Department interpretation of any provision of this ordinance or a request for a variance.

**“Area of shallow flooding”** means a designated AO or VO Zone on a community’s Flood Insurance Rate Map (FIRM) with base flood depths from one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

**“Area of special flood hazard”** is the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year.

**“Base flood”** means the flood having a one 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 the supporting foundation system.

**“Building”** means any structure built for support, shelter, or enclosure for any occupancy or storage.

**“Coastal High Hazard Area”** means the area subject to high velocity waters caused by, but not limited to, hurricane wave wash. The area is designated on a FIRM as Zone VI - 30, VE or V.

**“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 materials or equipment.

**“Elevated building”** means a non-basement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, columns (posts and piers), shear walls, or breakaway walls.

**“Existing Construction”** means any structure for which the "start of construction" commenced before (the effective date of the first floodplain management code, ordinance, or standard based upon specific technical base flood elevation data which established the area of special flood hazard) or (specific date).

**“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, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community (before the effective date of the first floodplain management code, ordinance, or standard based upon specific technical base flood elevation data which established the area of special flood hazard) or (specific date).

**“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 of runoff of surface waters from any other source.

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

**"Flood Insurance Rate Map (FIRM)"** means an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

**"Flood Insurance Study"** is the official report provided by the Federal Emergency Management Agency. The report contains flood profiles, as well as the Flood Boundary Floodway Map and the water surface elevation of the base flood.

**"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 one foot.

**"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.

**"Functionally dependent facility"** means a facility which cannot be used for its intended purpose unless it is located or carried out in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, ship repair, or seafood processing facilities. The term does not include long-term storage, manufacture, sales, or service facilities.

**"Highest adjacent grade"** means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a building.

**"Historic Structure"** means any structure that is

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

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

**"Manufactured home"** means a building, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term also includes park trailers, travel trailers, and similar transportable structures placed on a site for 180 consecutive days or longer and intended to be improved property.

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

**"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 ordinance, the term is synonymous with National Geodetic Vertical Datum (NGVD).

**"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"** Any structure for which the "start of construction" commenced after (the effective date of the first floodplain management code, ordinance, or standard based upon specific technical base flood elevation data which establishes the area of special flood hazard.) or (specific date). The term also 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 on or after the effective date of floodplain management regulations adopted by a community.

**"Recreational vehicle"** means a vehicle which is:

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

**"Start of construction"** (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (P.L. 97-348)), includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, or improvement was within 180 days of the permit date. The actual start means the first placement of permanent construction of a building (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of

excavation or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main building. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

**"Structure"** means 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 its before damage condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

**"Substantial improvement"** means any combination of repairs, reconstruction, alteration, or improvements to a building, taking place during the life of a building, in which the cumulative cost equals or exceeds fifty percent of the market value of the building. The market value of the building should be (1) the appraised value of the building prior to the start of the initial repair or improvement, or (2) in the case of damage, the value of the building prior to the damage occurring. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. For the purposes 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 any project for improvement of a building required to comply with existing health, sanitary, or safety code specifications which have been identified by the Code Enforcement Official and which are solely necessary to assure safe living conditions.

**"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 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 ordinance which permits construction in a manner otherwise prohibited by this ordinance where specific enforcement would result in unnecessary hardship.

**"Violation"** the failure of a structure or other development to be fully compliant with these regulations.

ARTICLE 3.           GENERAL PROVISIONS.

SECTION A.           LANDS TO WHICH THIS ORDINANCE APPLIES.

This ordinance shall apply to all areas of special flood hazard within the jurisdiction of Bamberg County.

SECTION B. BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD.

The areas of special flood hazard identified by the Federal Emergency Management Agency in its Flood Insurance Study, dated September 29, 2010, with accompanying maps and other supporting data, are adopted by reference and declared to be a part of this ordinance.

SECTION C. ESTABLISHMENT OF DEVELOPMENT PERMIT.

A Development Permit shall be required in conformance with the provision of this ordinance prior to the commencement of any development activities.

SECTION D. COMPLIANCE.

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

SECTION E. ABROGATION AND GREATER RESTRICTIONS.

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

SECTION F. INTERPRETATION.

In the interpretation and application of this ordinance 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 state statutes.

SECTION G. PARTIAL INVALIDITY / SEVERABILITY

If any part of this Ordinance is declared invalid, the remainder of the Ordinance shall not be affected and shall remain in force.

SECTION H. WARNING AND DISCLAIMER OF LIABILITY

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of Bamberg County or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made there under.

SECTION I. PENALTIES FOR VIOLATION.

Violation of the provisions of this ordinance or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$100.00 or

imprisoned for not more than 30 days, or both, and in addition, shall pay all costs and expenses involved in the case. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent Bamberg County from taking such other lawful actions as is necessary to prevent or remedy any violation.

ARTICIE 4. ADMINISTRATION.

SECTION A. DESIGNATION OF BUILDING / PLANNING DEPARTMENT.

The Building / Planning Department Director and/or his designee are hereby appointed to administer and implement the provisions of this ordinance.

SECTION B. PERMIT PROCEDURES.

Application for a Development Permit shall be made to the Building / Planning Department on forms furnished by him or her prior to any development activities, and may include, but not be limited to, the following plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, earthen fill, storage of materials or equipment, drainage facilities, and the location of the foregoing. Specifically, the following information is required:

- (1) Application Stage.
  - (a) Elevation in relation to mean sea level of the proposed lowest flood (including basement) of all buildings;
  - (b) Elevation in relation to mean sea level to which any non-residential buildings will be flood-proofed;
  - (c) Certificate from a registered professional engineer or architect that the non-residential flood-proofed building will meet the flood-proofing criteria in Article 5, Section B (2);
  - (d) Description of the extent to which any watercourse will be altered or relocated as result of proposed development, and;

(2) Construction Stage.

Provide a flood elevation or flood-proofing certification after the lowest floor is completed, or instances where the building is subject to the regulations applicable to Coastal High Hazard Areas, after placement of the horizontal structural members of the lowest floor, or flood-proofing by whatever construction means, or upon placement of the horizontal structural members of the lowest floor, whichever is applicable, it shall be the duty of the permit holder to submit to the Building / Planning Department a certification of the elevation of the lowest floor, flood-proofed elevation, or the elevation of the lowest portion of the horizontal structural members of the lowest floor, whichever is applicable, as built, in relation to mean sea level. Said certification shall be prepared by or under the



direct supervision of a registered land surveyor or professional engineer and certified by same. When flood-proofing is utilized for a particular building, said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When flood-proofing is utilized for a particular 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 / Planning Department shall review the floor elevation survey data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby shall be cause to issue a stop-work order for the project.

SECTION C. DUTIES AND RESPONSIBILITIES OF THE BUILDING / PLANNING DEPARTMENT.

Duties of the Building / Planning Department shall include, but not be limited to:

- (1) Review all development permits to assure that the permit requirements of this ordinance have been satisfied;
- (2) Requirement of Federal and/or State permits – Review proposed development to assure that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C 1334.
- (3) Notify adjacent communities and the South Carolina Department of Natural Resources, Land Resources and Conversation Division, State Coordinator for the National Flood Insurance Program, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.
- (4) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
- (5) Verify and record the actual elevation (in relation to mean sea level) or the lowest floor (including basement) of all new or substantially improved buildings, in accordance with article 4, section B (2).
- (6) Verify and record the actual elevation (in relation to mean sea level) to which the new or substantially improved buildings have been flood-proofed, in accordance with Article 4, Section B (2).
- (7) In Coastal Hazard Areas, certification shall be obtained from a registered professional engineer or architect that the building is designed and securely anchored to adequately anchored pilings or columns in order to withstand velocity waters and hurricane wave wash.
- (8) In Coastal High Hazard Areas, the Building / Planning Department shall review plans for

adequacy of breakaway walls in accordance with Article 5, section B (6) (h).

- (9) When flood-proofing is utilized for a particular building, the Building / Planning Department shall obtain certification from a registered professional engineer or architect, in accordance with Article 5, Section B (2).
- (10) 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 / Planning Department shall make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.
- (11) When base flood elevation data or floodway data have not been provided in accordance with Article 3, Section B, then the Building / Planning Department shall obtain, review and reasonable utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer the provisions of Article 5.
- (12) All records pertaining to the provisions of this ordinance shall be maintained in the office of the Building / Planning Department and shall be open for public inspection.

SECTION D. VARIANCE PROCEDURES.

- (1) The Bamberg County Planning Committee as established by the Bamberg County Council shall hear and decide appeals and requests for variances from the requirements of this ordinance.
- (2) The Bamberg County Planning Committee shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Building / Planning Department in the enforcement of administration of this ordinance.
- (3) Any person aggrieved by the decision of the Bamberg County Planning Committee or any taxpayer may appeal such decision to the Bamberg County Council.
- (4) 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 structures continue designation as a historic character and design of the structure.
- (5) In passing upon such applications, the Bamberg County Planning Committee shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:
  - (a) the danger that materials may be swept onto other lands to the injury of others;
  - (b) the danger to life and property due to flooding or erosion damage;
  - (c) the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

- (d) the importance of the services provided by the proposed facility to the community;
  - (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 compatibility of the proposed use with existing and anticipated development;
  - (h) the relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
  - (i) the safety of access to the property in times of flood for ordinary and emergency vehicles;
  - (j) the expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site, and;
  - (k) 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, and streets and bridges.
- (6) Upon consideration at the factors listed above, and the purposes of this ordinance, the Bamberg County Planning Committee may attach such conditions to the granting of variances as it deems necessary to further the purposes of ordinance.
- (7) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- (8) Conditions for Variances:
- (a) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief; and in the instance of a historical building, a determination that the variance is the minimum necessary so as not to destroy the historic character and design of the building;
  - (b) Variances shall only be issued upon (i) a showing of good and sufficient cause, (ii) a determination that failure to grant the variance would result in exceptional hardship, and; (iii) 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 ordinances.
  - (c) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation and the elevation to which the building is to be built and stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest

floor elevation.

- (d) The Building / Planning Department shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

ARTICLE 5. PROVISIONS FOR FLOOD HAZARD REDUCTION.

SECTION A. GENERAL STANDARDS.

In all areas of special flood hazard the following provisions are required:

- (1) New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure;
- (2) Manufactured homes shall be 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 the consistent with applicable state requirements for resisting wind forces.
- (3) New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
- (4) New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
- (5) 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 flood waters into the system;
- (7) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;
- (8) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding, and
- (9) Any alteration, repair, reconstruction or improvements to a building which is in compliance with the provisions of this ordinance, shall meet the requirements of "new construction" as contained in this ordinance.
- (10) Any alteration, repair, reconstruction or improvements to a building which is not in compliance with the provisions of this ordinance, shall be undertaken only if said non-conformity is not furthered, extended, or replaced.

SECTION B. SPECIFIC STANDARDS.

In all areas of special flood hazard where base flood elevation data have been provided, as set forth in Article 3, Section B, or Article 4, Section C (11), the following provisions are required:

- (1) Residential Construction. New construction or substantial improvement of any residential building (or manufactured home) shall have the lowest floor, including basement elevated no lower than the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of flood waters shall be provided in accordance with standards of Article 5, Section B (3).
- (2) Non-Residential Construction. New construction or substantial improvement of any commercial, industrial, or non-residential building (or manufactured home) shall have the lowest floor, including basement, elevated no lower than the level of the base flood elevation. 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 water tight with walls substantially impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the official as set forth in Article 4, Section t (9).
- (3) Elevated Buildings. New construction or substantial improvements of elevated buildings that include fully enclosed areas that are usable solely for the parking of vehicles, building access, or limited storage in an area other than a basement, and which are subject to flooding shall be designed to preclude finished space and be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters.
  - (a) Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:
    - (i) Provide a minimum of two openings on different walls having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding, if there are multiple enclosed areas, each area must have openings in its exterior walls,
    - (ii) The bottom of each opening must be no more than one foot above the higher of the interior or exterior grade immediately under the opening,
    - (iii) Only portions of openings that are below the BFE can be towards the required net open area,
    - (iv) Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both direction; and,
    - (v) Fill placed around foundation walls must be graded so that inside the enclosed area is equal to or higher than the adjacent grade outside the building on at least one side of the buildings.
  - (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 living area (stairway or elevator); and
  - (c) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms.

(4) Standards for Manufactured Homes and Recreational Vehicles.

- (a) All manufactured homes placed, or substantially improved, on individual lots or parcels, in expansions to existing manufactured home parks or subdivisions, or in substantially improved manufactured home parks or subdivisions, must meet all the requirements for new construction, including elevation and anchoring.
- (b) All manufactured homes placed or substantially improved in an existing manufactured home park or subdivision must be elevated so that:
  - (i) The lowest floor of the manufactured home is elevated no lower than above the level of the base flood elevation, or
  - (ii) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least an equivalent strength, of no less than 36 inches in height above grade.
  - (iii) The manufactured home must be securely anchored to the adequately anchored foundation system to resist flotation, collapse and lateral movement.
  - (iv) In an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood, any manufactured home placed or substantially improved must meet the standards of Article 5, Section B (4) (b) (i) and (iii) above.
- (c) All recreational vehicles placed on sites must either:
  - (i) Be fully licensed and ready for highway use, or
  - (ii) The recreational vehicle must meet all the requirements for new construction, including anchoring and elevation requirements of Article 5, Section B (4) (a) or (b), above.

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 structures.

5. Floodways. Located within areas of special flood hazard established in Article 3, Section B, are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and has erosion potential, the following provisions shall apply:

- (a) Prohibit encroachments, including fill, new construction, substantial improvements and other developments unless certification (with supporting technical data) by a registered professional engineer is provided demonstrating that encroachments shall not result in any increase in flood levels during

occurrence of the base flood discharge;

- (b) If Article 5, Section B (5) (a) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Article 5.
- (c) Prohibit the placement of manufactured homes (mobile homes), except in an existing manufactured homes (mobile homes) park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring standards of Article 5, Section A (2) , and the elevation standards of Article 5, Section B (1) and the encroachment standards of Article 5, Section B (5) (a) , are met.

SECTION C. STANDARDS FOR STREAMS WITHOUT ESTABLISHED BASE FLOOD ELEVATION AND/OR FLOODWAYS .

Located within the areas of special flood hazard (Zone A and V) established in Article 3 Section A, are small streams where no base flood data has been provided or where no floodways have been identified. The following provisions apply within such areas:

- (1) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within 100 feet of the stream bank unless certification with supporting technical data by a registered, professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- (2) If Article 5 Section C(1) is satisfied and base flood elevation data is available from other sources, all new construction and substantial improvements within such areas shall comply with all applicable flood hazard ordinance provisions of Article IV and shall be elevated or floodproofed in accordance with elevations established in accordance with Article 4 Section C(11).
- (3) Data from preliminary, draft, and final Flood Insurance Studies constitutes best available data. Refer to FEMA Floodplain Management Technical Bulletin 1-98 Use of Flood Insurance Study (FIS) Data as Available Data. If an appeal is pending on the study in accordance with 44 CFR Ch. 1, Part 67.5 and 67.6, the data does not have to be used.
- (4) When base flood elevation data is not available from a federal, State, or other source one of the following methods may be used to determine a BFE. For further information regarding the methods for determining BFEs listed below refer to FEMA's manual Managing Floodplain Development in Approximate Zone A Areas.
  - a) Contour Interpolation
    - (1) Superimpose approximate Zone A boundaries onto a topographic map and estimate a BFE.
    - (2) Add one-half of the contour interval of the topographic map that is used to the BFE.
  - b) Data Extrapolation - A BFE can be determined if a site within 500 feet upstream of a reach of a stream reach for which a 100-year profile has been computed by detailed methods, and the floodplain and channel bottom slope characteristics are

relatively similar to the downstream reaches.

- c) Hydrologic and Hydraulic Calculations- Perform hydrologic and hydraulic calculations to determine BFEs using FEMA approved methods and software. These methods include, but are not limited to the following:
- (1) HEC-RAS 3.1.1 and up
  - (2) HEC-1 4.0.1 and up
  - (3) HEC-2 4.6.2
  - (4) HEC-HMS 1.1 and up
  - (5) FLO-2D
  - (6) QUICK-2
  - (7) SFD
  - (8) WSPRO

SECTION D. STANDARDS FOR SUBDIVISION PROPOSALS.

- (1) All subdivision proposals shall be consistent with the need to minimize flood damage;
- (2) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;
- (3) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards, and;
- (4) Base flood elevation data shall be provided for subdivision proposals and other proposed development (including manufactured home parks and subdivisions) which is greater than the lesser of fifty lots or five acres.



Enacted this \_\_\_\_\_ day of \_\_\_\_\_, 2010

ATTESTED BY:

BAMBERG COUNTY COUNCIL:

\_\_\_\_\_  
Rose R. Shepherd, Clerk to Council

\_\_\_\_\_  
Isaiah Odom, Council

\_\_\_\_\_  
Dorothy C. Tatum, Council

\_\_\_\_\_  
Chris Wilson, Council

\_\_\_\_\_  
Alzena Robinson, Chairwoman

\_\_\_\_\_  
Clair P. Guess, III, Council

\_\_\_\_\_  
William Nimmons, Council

\_\_\_\_\_  
Clint Carter, Council

Ordinance # \_\_\_\_\_, Flood Damage Prevention, has been reviewed by me and is hereby approved as to form and legality.

\_\_\_\_\_  
Richard B. Ness, County Attorney

First Reading: \_\_\_\_\_

Second Reading: \_\_\_\_\_

Public Hearing: \_\_\_\_\_

Third & Final Reading: \_\_\_\_\_

Filed w/Clerk of Court: \_\_\_\_\_