

***State of Indiana
Model Ordinance
for
Flood Hazard Areas***



INSTRUCTIONS FOR USING THE INDIANA MODEL ORDINANCE FOR FLOOD HAZARD AREAS

The Model Ordinance for Flood Hazard Areas is provided to assist your community in developing an ordinance that will comply with the minimum participating criteria of the National Flood Insurance Program (NFIP). It is recommended that a Community's attorney(s) consider necessary additions and include all required information and delegations to the model. It is not intended that this model, if adopted, will serve all of a Community's needs as related to floodplain management, land use, or zoning. Any Community may adopt standards that are more restrictive than the minimum NFIP participating standards. This model ordinance will denote the minimum federal regulations governing community participation in the NFIP and state floodplain regulations regarding development in Special Flood Hazard Areas (SFHA). Additionally, it includes some generally accepted construction practices regarding fill and provides some suggested enhancements for consideration.

1. Note in the document those text/information that require completion by the local community are set up with a **MACRO BUTTON** that appear like this:
[Click here and type name of Community]
When completing the ordinance for your community, simply click on the macro button text and type the appropriate information as indicated. Make certain that the appropriate information has been inserted for each **MACRO BUTTON** within the ordinance.
2. Particular attention should be given to all flood insurance study and flood map **dates within the ordinance** to ensure that the information is correct.
3. Optional enhancements are shown in the document in gray colored text. Any optional language should be reviewed carefully, removing the language that is not desired and converting any desired optional language into standard **black text**.
4. **Guidance information shown within the document in blue text should be removed prior to submitting a draft for review by DNR.**
5. Note that the Table of Contents reflects the various articles and sections within the ordinance including optional language as well as some sections which may not be appropriate for your community. If the Table of Contents is used in your community's ordinance, the page numbers may need to be changed to accurately reflect the corresponding location of each identified Article/Section in the final document.

While the most current version of the model floodplain ordinance is typically posted on the Division of Water Web site, www.in.gov/dnr/water, communities interested in adopting new or updated floodplain regulations should always coordinate these efforts with the Floodplain Management Section of the IDNR Division of Water to ensure they are using the most up-to-date version tailored for their community. *Prior to adoption*, communities should submit a draft of a proposed floodplain ordinance to the Floodplain Management Section of the IDNR Division of Water for review.

Contact Info:

Floodplain Management Section, IDNR Division of Water, 402 W. Washington Street, Indianapolis, IN 46204
317-232-4160
800-928-3755 (toll free)

**ORDINANCE FOR FLOOD HAZARD AREAS
FOR
*[Click here and type name of Community]***

Ordinance No. *[Click here and type Ordinance Number]*

2013

Article 1. Statutory Authorization, Findings of Fact, Purpose, and Objectives.

Section A. Statutory Authorization.

The _____ Indiana _____ Legislature _____ has _____ in [Click here and type IC 36-7-4 if community has zoning; type IC 36-1-4-11 if no zoning] granted the power to local government units to control land use within their jurisdictions. Therefore, the [Click here and type name of governing body] of [Click here and type name of Community] does hereby adopt the following floodplain management regulations.

Section B. Findings of Fact.

- (1) The flood hazard areas of [Click here and type name of Community] 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, inadequately flood-proofed, or otherwise unprotected from flood damages.

Section C. 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, which result in damaging increases in erosion or in flood heights or velocities.
- (2) Require that uses vulnerable to floods, including facilities which serve 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.
- (5) Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.
- (6) Make federal flood insurance available for structures and their contents in the [Click here and type either Town, City, or County] by fulfilling the requirements of the National Flood Insurance Program.

Section D. 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 and gas mains, electric, telephone, and sewer lines, streets, 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.

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.

A zone means portions of the SFHA in which the principal source of flooding is runoff from rainfall, snowmelt, or a combination of both. In A zones, floodwaters may move slowly or rapidly, but waves are usually not a significant threat to buildings. These areas are labeled as Zone A, Zone AE, Zones A1-A30, Zone AO, Zone AH, Zone AR and Zone A99 on a FIRM. The definitions are presented below:

Zone A: Areas subject to inundation by the one-percent annual chance flood event. Because detailed hydraulic analyses have not been performed, no base flood elevation or depths are shown.

Zone AE and A1-A30: Areas subject to inundation by the one-percent annual chance flood event determined by detailed methods. Base flood elevations are shown within these zones. (Zone AE is on new and revised maps in place of Zones A1-A30.)

Zone AO: Areas subject to inundation by one-percent annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown within this zone.

Zone AH: Areas subject to inundation by one-percent annual chance shallow flooding (usually areas of ponding) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown within this zone.

Zone AR: Areas that result from the decertification of a previously accredited flood protection system that is determined to be in the process of being restored to provide base flood protection.

Zone A99: Areas subject to inundation by the one-percent annual chance flood event, but which will ultimately be protected upon completion of an under-construction Federal flood protection system. These are areas of special flood hazard where enough progress has been made on the construction of a protection system, such as dikes, dams, and levees, to consider it complete for insurance rating purposes. Zone A99 may only be used when the flood protection system has reached specified statutory progress toward completion. No base flood elevations or depths are shown.

Accessory structure (appurtenant structure) means a structure with a floor area 400 square feet or less that is located on the same parcel of property as the principal structure and the use of which is incidental to the use of the principal structure. Accessory structures should constitute a minimal initial investment, may not

be used for human habitation, and be designed to have minimal flood damage potential. Examples of accessory structures are detached garages, carports, storage sheds, pole barns, and hay sheds

Addition (to an existing structure) means any walled and roofed expansion to the perimeter of a structure 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 independent perimeter load-bearing walls, is new construction.

Appeal means a request for a review of the floodplain administrator's interpretation of any provision of this ordinance.

Area of shallow flooding means a designated AO or AH Zone on the 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. Such flooding is characterized by ponding or sheet flow.

Base Flood means the flood having a one percent chance of being equaled or exceeded in any given year.

Base Flood Elevation (BFE) means the elevation of the one-percent annual chance flood.

Basement means that portion of a structure having its floor sub-grade (below ground level) on all sides.

Boundary River means the part of the Ohio River that forms the boundary between Kentucky and Indiana.

Boundary River Floodway means the floodway of a boundary river.

Building - see "Structure."

Community means a political entity that has the authority to adopt and enforce floodplain ordinances for the area under its jurisdiction.

Community Rating System (CRS) means a program developed by the Federal Insurance Administration to provide incentives for those communities in the Regular Program that have gone beyond the minimum floodplain management requirements to develop extra measures to provide protection from flooding.

Critical facility means a facility for which even a slight chance of flooding might be too great. Critical facilities include, but are not limited to, schools, nursing homes, hospitals, police, fire, and emergency response installations, installations which produce, use or store hazardous materials or hazardous waste.

D Zone means unstudied areas where flood hazards are undetermined, but flooding is possible. Flood insurance is available in participating communities but is not required by regulation in this zone.

Development means any man-made change to improved or unimproved real estate including but not limited to:

- (1) construction, reconstruction, or placement of a structure or any addition to a structure;
- (2) installing a manufactured home on a site, preparing a site for a manufactured home or installing a recreational vehicle on a site for more than 180 days;
- (3) installing utilities, erection of walls and fences, construction of roads, or similar projects;
- (4) construction of flood control structures such as levees, dikes, dams, channel improvements, etc.;
- (5) mining, dredging, filling, grading, excavation, or drilling operations;
- (6) construction and/or reconstruction of bridges or culverts;

(7) storage of materials; or

(8) any other activity that might change the direction, height, or velocity of flood or surface waters.

"Development" does not include activities such as the maintenance of existing structures and facilities such as painting, re-roofing; resurfacing roads; or gardening, plowing, and similar agricultural practices that do not involve filling, grading, excavation, or the construction of permanent structures.

Elevated structure means a non-basement structure built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, filled stem wall foundations (also called chain walls), pilings, or columns (posts and piers).

Elevation Certificate is a certified statement that verifies a structure's elevation information.

Emergency Program means the first phase under which a community participates in the NFIP. It is intended to provide a first layer amount of insurance at subsidized rates on all insurable structures in that community before the effective date of the initial FIRM.

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 community's first floodplain ordinance.

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).

FEMA means the Federal Emergency Management Agency.

Flood means a general and temporary condition of partial or complete inundation of normally dry land areas from the overflow, the unusual and rapid accumulation, or the runoff of surface waters from any source.

Flood Boundary and Floodway Map (FBFM) means an official map on which the Federal Emergency Management Agency (FEMA) or Federal Insurance Administration (FIA) has delineated the areas of flood hazards and regulatory floodway.

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

Flood Insurance Study (FIS) is the official hydraulic and hydrologic report provided by FEMA. The report contains flood profiles, as well as the FIRM, FBFM (where applicable), and the water surface elevation of the base flood.

Flood Prone Area means any land area acknowledged by a community as being susceptible to inundation by water from any source. (See "Flood")

Flood Protection Grade (FPG) is the elevation of the regulatory flood plus two feet at any given location in the SFHA. (see “Freeboard”)

Floodplain means the channel proper and the areas adjoining any wetland, lake, or watercourse which have been or hereafter may be covered by the regulatory flood. The floodplain includes both the floodway and the fringe districts.

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

Floodplain management regulations means this ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power which control development in flood-prone areas. This term describes federal, state, or local regulations in any combination thereof, which provide standards for preventing and reducing flood loss and damage. Floodplain management regulations are also referred to as floodplain regulations, floodplain ordinance, flood damage prevention ordinance, and floodplain management requirements.

Floodproofing (dry floodproofing) is a method of protecting a structure that ensures that the structure, together with attendant utilities and sanitary facilities, is watertight to the floodproofed design elevation with walls that are substantially impermeable to the passage of water. All structural components of these walls are capable of resisting hydrostatic and hydrodynamic flood forces, including the effects of buoyancy, and anticipated debris impact forces.

Floodproofing certificate is a form used to certify compliance for non-residential structures as an alternative to elevating structures to or above the FPG. This certification must be by a Registered Professional Engineer or Architect.

Floodway is the channel of a river or stream and those portions of the floodplains adjoining the channel which are reasonably required to efficiently carry and discharge the peak flood flow of the regulatory flood of any river or stream.

Freeboard means a factor of safety, usually expressed in feet above the BFE, which is applied for the purposes of floodplain management. It is used to compensate for the many unknown factors that could contribute to flood heights greater than those calculated for the base flood.

Fringe is those portions of the floodplain lying outside the floodway.

Hardship (as related to variances of this ordinance) means the exceptional hardship that would result from a failure to grant the requested variance. The[[Click here and type name of Community](#)] [[Click here and type name of governing body](#)] requires that the variance is exceptional, unusual, and peculiar to the property involved. Mere economic or financial hardship alone is NOT exceptional. Inconvenience, aesthetic considerations, physical handicaps, personal preferences, or the disapproval of one’s neighbors likewise cannot, as a rule, qualify as an exceptional hardship. All of these problems can be resolved through other means without granting a variance, even if the alternative is more expensive, or requires the property owner to build elsewhere or put the parcel to a different use than originally intended.

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

Historic structures means any structures individually listed on the National Register of Historic Places or the Indiana State Register of Historic Sites and Structures.

Increased Cost of Compliance (ICC) means the cost to repair a substantially damaged structure that exceeds the minimal repair cost and that is required to bring a substantially damaged structure into

compliance with the local flood damage prevention ordinance. Acceptable mitigation measures are elevation, relocation, demolition, or any combination thereof. All renewal and new business flood insurance policies with effective dates on or after June 1, 1997, will include ICC coverage.

Letter of Final Determination (LFD) means a letter issued by FEMA during the mapping update process which establishes final elevations and provides the new flood map and flood study to the community. The LFD initiates the six-month adoption period. The community must adopt or amend its floodplain management regulations during this six-month period unless the community has previously incorporated an automatic adoption clause.

Letter of Map Change (LOMC) is a general term used to refer to the several types of revisions and amendments to FEMA maps that can be accomplished by letter. They include Letter of Map Amendment (LOMA), Letter of Map Revision (LOMR), and Letter of Map Revision based on Fill (LOMR-F). The definitions are presented below:

Letter of Map Amendment (LOMA) means an amendment by letter to the currently effective FEMA map that establishes that a property is not located in a SFHA through the submittal of property specific elevation data. A LOMA is only issued by FEMA.

Letter of Map Revision (LOMR) means an official revision to the currently effective FEMA map. It is issued by FEMA and changes flood zones, delineations, and elevations.

Letter of Map Revision Based on Fill (LOMR-F) means an official revision by letter to an effective NFIP map. A LOMR-F provides FEMA's determination concerning whether a structure or parcel has been elevated on fill above the BFE and excluded from the SFHA.

Lowest adjacent grade means the lowest elevation, after completion of construction, of the ground, sidewalk, patio, deck support, or basement entryway immediately next to the structure.

Lowest floor means the lowest elevation described among the following:

- (1) The top of the lowest level of the structure.
- (2) The top of the basement floor.
- (3) The top of the garage floor, if the garage is the lowest level of the structure.
- (4) The top of the first floor of a structure elevated on pilings or pillars.
- (5) The top of the floor level of any enclosure, other than a basement, below an elevated structure where the walls of the enclosure provide any resistance to the flow of flood waters unless:
 - a) the walls are designed to automatically equalize the hydrostatic flood forces on the walls by allowing for the entry and exit of flood waters by providing a minimum of two openings (in addition to doorways and windows) in a minimum of two exterior walls; if a structure has more than one enclosed area, each shall have openings on exterior walls;
 - b) the total net area of all openings shall be at least one (1) square inch for every one square foot of enclosed area; the bottom of all such openings shall be no higher than one (1) foot above the exterior grade or the interior grade immediately beneath each opening, whichever is higher; and,
 - c) such enclosed space shall be usable solely for the parking of vehicles and building access.

Manufactured home means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle."

Manufactured home park or subdivision means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Market value means the building value, excluding the land (as agreed to between a willing buyer and seller), as established by what the local real estate market will bear. Market value can be established by independent certified appraisal, replacement cost depreciated by age of building (actual cash value), or adjusted assessed values.

Mitigation means sustained actions taken to reduce or eliminate long-term risk to people and property from hazards and their effects. The purpose of mitigation is twofold: to protect people and structures, and to minimize the cost of disaster response and recovery.

National Flood Insurance Program (NFIP) is the federal program that makes flood insurance available to owners of property in participating communities nationwide through the cooperative efforts of the Federal Government and the private insurance industry.

National Geodetic Vertical Datum (NGVD) of 1929 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 the community's first floodplain ordinance.

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 the community's first floodplain ordinance.

Non-boundary river floodway means the floodway of any river or stream other than a boundary river.

North American Vertical Datum of 1988 (NAVD 88) as adopted in 1993 is a vertical control datum used as a reference for establishing varying elevations within the floodplain.

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

One-percent annual chance flood is the flood that has a one percent (1%) chance of being equaled or exceeded in any given year. Any flood zone that begins with the letter A is subject to the one-percent annual chance flood. See "Regulatory Flood".

Physical Map Revision (PMR) is an official republication of a community's FEMA map to effect changes to base (1-percent annual chance) flood elevations, floodplain boundary delineations, regulatory floodways, and planimetric features. These changes typically occur as a result of structural works or improvements, annexations resulting in additional flood hazard areas, or correction to base flood elevations or SFHAs.

Public safety and nuisance means anything which is injurious to the safety or health of an entire community, neighborhood or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.

Recreational vehicle means a vehicle which is (1) built on a single chassis; (2) 400 square feet or less when measured at the largest horizontal projections; (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 quarters for recreational camping, travel, or seasonal use.

Regular program means the phase of the community's participation in the NFIP where more comprehensive floodplain management requirements are imposed and higher amounts of insurance are available based upon risk zones and elevations determined in a FIS.

Regulatory flood means the flood having a one percent (1%) chance of being equaled or exceeded in any given year, as calculated by a method and procedure that is acceptable to and approved by the Indiana Department of Natural Resources and the Federal Emergency Management Agency. The regulatory flood elevation at any location is as defined in Article 3 (B) of this ordinance. The "Regulatory Flood" is also known by the term "Base Flood", "One-Percent Annual Chance Flood", and "100-Year Flood".

Repetitive loss means flood-related damages sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equaled or exceeded 25% of the market value of the structure before the damage occurred.

Section 1316 is that section of the National Flood Insurance Act of 1968, as amended, which states that no new flood insurance coverage shall be provided for any property that the Administrator finds has been declared by a duly constituted state or local zoning authority or other authorized public body to be in violation of state or local laws, regulations, or ordinances that intended to discourage or otherwise restrict land development or occupancy in flood-prone areas.

Use this definition of Special Flood Hazard Area only if the Community does not wish to use the optional automatic adoption language.

Special Flood Hazard Area (SFHA) means those lands within the jurisdiction of the [Click here and type either Town, City, or County]subject to inundation by the regulatory flood. The SFHAs of [Click here and type Community Name] are generally identified as such on[Click here and type name/title of FIRM(s) as they appear on the Title Block] [Click here and type Panel # from FIRM(s) as they appear on the Title Block] Flood Insurance Rate Map dated[Click here and type date of each respective FIRM Panel]. (These areas are shown on a FIRM as Zone A, AE, A1- A30, AH, AR, A99, or AO).

Use this optional definition of Special Flood Hazard Area only if the Community wishes to use automatic adoption language.

Special Flood Hazard Area (SFHA) means those lands within the jurisdiction of the [Click here and type either Town, City, or County]subject to inundation by the regulatory flood. The SFHAs of [Click here and type Community Name] are generally identified as such on the [Click here and type name/title from FIRM as it appears on the Title Block] Flood Insurance Rate Map dated [Click here and type date of FIRM] as well as any future updates, amendments, or revisions, prepared by the Federal Emergency Management Agency with the most recent date. (These areas are shown on a FIRM as Zone A, AE, A1- A30, AH, AR, A99, or AO).

Start of construction 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 either the first placement of permanent construction of a structure on a site, such as the pouring of a slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, foundations, or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction

means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure means a structure that is principally above ground and is enclosed by walls and a roof. The term includes a gas or liquid storage tank, a manufactured home, or a prefabricated building. The term also includes recreational vehicles to be installed on a site for more than 180 days.

Substantial damage means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial improvement means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures that have incurred "repetitive loss" or "substantial damage" regardless of the actual repair work performed. The term does not include improvements of structures to correct existing violations of state or local health, sanitary, or safety code requirements or any alteration of a "historic structure", provided that the alteration will not preclude the structures continued designation as a "historic structure".

Suspension means the removal of a participating community from the NFIP because the community has not enacted and/or enforced the proper floodplain management regulations required for participation in the NFIP.

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 means the failure of a structure or other development to be fully compliant with this ordinance. A structure or other development without the elevation, other certification, or other evidence of compliance required in this ordinance is presumed to be in violation until such time as that documentation is provided.

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

X zone means the area where the flood hazard is less than that in the SFHA. Shaded X zones shown on recent FIRMs (B zones on older FIRMs) designate areas subject to inundation by the flood with a 0.2 percent chance of being equaled or exceeded (the 500-year flood). Unshaded X zones (C zones on older FIRMs) designate areas where the annual exceedance probability of flooding is less than 0.2 percent.

Zone means a geographical area shown on a FIRM that reflects the severity or type of flooding in the area.

Zone A (see definition for A zone)

Zone B, C, and X means areas identified in the community as areas of moderate or minimal hazard from the principal source of flood in the area. However, buildings in these zones could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems. Flood insurance is available in participating communities but is not required by regulation in these zones. (Zone X is used on new and revised maps in place of Zones B and C.)

Article 3. General Provisions.

Section A. Lands to Which This Ordinance Applies.

This ordinance shall apply to all SFHAs and known flood prone areas within the jurisdiction of **[Click here and type name of Community]**.

Section B. Basis for Establishing Regulatory Flood Data.

This ordinance's protection standard is the regulatory flood. The best available regulatory flood data is listed below.

- (1) *(Include (1) only if the community has a Flood Insurance Study)*

Use this paragraph if the community does not wish to use the optional automatic adoption language.

The regulatory flood elevation, floodway, and fringe limits for the studied SFHAs within the jurisdiction of **[Click here and type name of community]** shall be as delineated on the one-percent annual chance flood profiles in the Flood Insurance Study of **[Click here and type name/title of FIS as it appears on FIS cover]** dated **[Click here and type date of FIS]** and the corresponding Flood Insurance Rate Map **[Click here and type all corresponding FIRM panels/dates]**.

Use this paragraph instead of the one immediately above only if the community wishes to use the optional automatic adoption language.

The regulatory flood elevation, floodway, and fringe limits for the studied SFHAs within the jurisdiction of **[Click here and type name of community]** shall be as delineated on the one-percent annual chance flood profiles in the Flood Insurance Study of **[Click here and type name/title of FIS as it appears on FIS cover]** dated **[Click here and type date of FIS]** and the corresponding Flood Insurance Rate Map dated **[Click here and type corresponding FIRM Index date]** as well as any future updates, amendments, or revisions, prepared by the Federal Emergency Management Agency with the most recent date.

- (2) *(Include (2) only if the community's mapping also contains areas identified as "AO Zone")*

Use this paragraph if the community does not wish to use the optional automatic adoption language.

The regulatory flood elevation for each SFHA within the jurisdiction of **[Click here and type name of community]** delineated as an "AO Zone" (in fringe) shall be that elevation (or depth) delineated on the Flood Insurance Rate Map of **[Click here and type name/title of FIRM as it appears in the title block on FIRM]** dated **[Click here and type all appropriate FIRM panels/dates]** prepared by the Federal Emergency Management Agency.

Use this paragraph instead of the one immediately above only if the community wishes to use the optional automatic adoption language.

The regulatory flood elevation for each SFHA within the jurisdiction of **[Click here and type community name]** delineated as an "AO Zone" (in fringe) shall be that elevation (or depth) delineated on the Flood Insurance Rate Map of **[Click here and type name/title of FIRM as it appears in the title block on FIRM]** dated as well as any future updates, amendments, or revisions, prepared by the Federal Emergency Management Agency with the most recent date.

- (3) *(Include (3) only if the county's mapping also contains areas identified as "A Zone")*

Use this paragraph if the community does not wish to use the optional automatic adoption language.

The regulatory flood elevation, floodway, and fringe limits for each of the SFHAs within the jurisdiction of **[Click here and type name of community]**, delineated as an "A Zone" on the **[Click here and type name/title of FIRM as it appears in the title block on FIRM]** Flood Insurance Rate Map dated **[Click here and type all appropriate FIRM panels/dates]** shall be according to the best data available as provided by the Indiana Department of Natural Resources; provided the upstream drainage area from the subject site is greater than one square mile. Whenever a party disagrees with the best available data, the party needs to replace existing data with better data that meets current engineering standards. To be considered, this data must be submitted to the Indiana Department of Natural Resources for review and subsequently approved.

Use this paragraph instead of the one immediately above only if the community wishes to use the optional automatic adoption language.

The regulatory flood elevation, floodway, and fringe limits for each of the SFHAs within the jurisdiction of **[Click here and type name of community]**, delineated as an "A Zone" on the **[Click here and type name/title of FIRM as it appears in the title block on FIRM]** Flood Insurance Rate Map dated **[Click here and type date of FIRM]** as well as any future updates, amendments, or revisions, prepared by the Federal Emergency Management Agency with the most recent date, shall be according to the best data available as provided by the Indiana Department of Natural Resources; provided the upstream drainage area from the subject site is greater than one square mile. Whenever a party disagrees with the best available data, the party needs to replace existing data with better data that meets current engineering standards. To be considered, this data must be submitted to the Indiana Department of Natural Resources for review and subsequently approved.

- (4) *(Use (4) only for a community where the mapping contains only SFHAs identified as "A Zone")*

Use this paragraph if the community does not wish to use the optional automatic adoption language.

The regulatory flood elevation, floodway, and fringe limits for the SFHAs within the jurisdiction of **[Click here and type community name]** delineated as an "A Zone" on the **[Click here and type name/title of FIRM as it appears in the title block on FIRM]** Flood Insurance Rate Map dated **[Click here and type all appropriate FIRM panels/dates]** shall be according to the best data available as provided by the Indiana Department of Natural Resources; provided the upstream drainage area from the subject site is greater than one square mile. Whenever a party disagrees with the best available data, the party needs to replace existing data with better data that meets current engineering standards. To be considered, this data must be submitted to the Indiana Department of Natural Resources for review and subsequently approved.

Use this paragraph instead of the one immediate above only if the community wishes to use the optional automatic adoption language.

The regulatory flood elevation, floodway, and fringe limits for the SFHAs within the jurisdiction of **[Click here and type name of community]** delineated as an "A Zone" on the **[Click here and type name/title of FIRM as it appears on FIRM]** Flood Insurance Rate Map dated **[Click here and type date of FIRM]** as well as any future updates, amendments, or revisions, prepared by the Federal Emergency Management Agency with the most recent date, shall be according to the best data available as provided by the Indiana Department of Natural Resources; provided the upstream drainage area from the subject site is greater than one square mile. . Whenever a party disagrees with the best available data, the party needs to replace existing data with better data that meets current engineering standards. To be considered, this data must be submitted to the Indiana Department of Natural Resources for review and subsequently approved.

- (5) *Include (5) only if ordinance is for a City or Town in County w/o Countywide Mapping.*

For the SFHAs of those parts of unincorporated **[Click here and type county name]** County that are within the extraterritorial jurisdiction of the **[Click here and type City or Town]** or that may be annexed into **[Click here and type City or Town]**:

a) ***(Include (a) only if County has a Flood Insurance Study.)***

The regulatory flood elevation, floodway, and fringe limits of studied streams shall be as delineated on the one-percent annual chance flood profiles in the Flood Insurance Study of **[Click here and type name of community as it appears on FEMA map]** dated **[Click here and type date of FIS]** and the corresponding **[Click here and type all appropriate FIRM panels/dates]**

(Use this paragraph instead of the one immediately above only if County has a Flood Insurance Study and the community wishes to use the optional automatic adoption language.)

The regulatory flood elevation, floodway, and fringe limits of studied streams shall be as delineated on the one-percent annual chance flood profiles in the Flood Insurance Study of **[Click here and type name of community as it appears on FEMA map]** dated **[Click here and type date of FIS]** and the corresponding **[Click here and type either FBFM or Flood Insurance Rate Map]** dated **[Click here and type date of FBFM or FIRM]** as well as any future updates, amendments, or revisions, prepared by the Federal Emergency Management Agency with the most recent date.

b) ***(Include (b) only if County's mapping contains areas identified as "AO Zone")***

If the SFHA is delineated as "AO Zone," (in fringe) the elevation (or depth) will be delineated on **[Click here and type name of community as it appears on FIRM]** FIRM, dated **[Click here and type all appropriate FIRM panels/dates]**

(Use this paragraph instead of the one immediately above only if County's mapping contains areas identified as "AO Zone" and the community wishes to use the optional automatic adoption language.)

If the SFHA is delineated as "AO Zone," (in fringe) the elevation (or depth) will be delineated on **[Click here and type name of community as it appears on FIRM map]** FIRM, dated **[Click here and type date of currently effective FIRM]** as well as any future updates, amendments, or revisions, prepared by the Federal Emergency Management Agency with the most recent date.

c) ***(Include (c) only if County's mapping contains areas identified as "Zone A")***

If the SFHA within the jurisdiction of the **[Click here and type City or Town]** is delineated as "Zone A" on the **[Click here and type county name as it appears on the County's FIRM]** Flood Insurance Rate Map, dated **[Click here and type title/dates of all appropriate FIRM Panels]**, the regulatory flood elevation, floodway, and fringe limits shall be according to the best data available as provided by the Indiana Department of Natural Resources; provided the upstream drainage area from the subject site is greater than one square mile. Whenever a party disagrees with the best available data, the party needs to replace existing data with better data that meets current engineering standards. To be considered, this data must be submitted to the Indiana Department of Natural Resources for review, subsequently approved.

(Include this paragraph instead of the one immediately above only if County's mapping contains areas identified as "Zone A" and the community wishes to use the optional automatic adoption language.)

If the SFHA within the jurisdiction of the **[Click here and type City or Town]** is delineated as "Zone A" on the **[Click here and type county name as it appears on the County's FIRM]** Flood Insurance Rate Map, dated **[Click here and type currently effective date of FIRM]** as well as any

future updates, amendments, or revisions, prepared by the Federal Emergency Management Agency with the most recent date, the regulatory flood elevation, floodway, and fringe limits shall be according to the best data available as provided by the Indiana Department of Natural Resources; provided the upstream drainage area from the subject site is greater than one square mile. Whenever a party disagrees with the best available data, the party needs to replace existing data with better data that meets current engineering standards. To be considered, this data must be submitted to the Indiana Department of Natural Resources for review, subsequently approved.

- (6) In the absence of a published FEMA map, or absence of identification on a FEMA map, the regulatory flood elevation, floodway, and fringe limits of any watercourse in the community's known flood prone areas shall be according to the best data available as provided by the Indiana Department of Natural Resources; provided the upstream drainage area from the subject site is greater than one square mile.
- (7) Upon issuance of a Letter of Final Determination (LFD), any more restrictive data in the new (not yet effective) mapping/study shall be utilized for permitting and construction (development) purposes, replacing all previously effective less restrictive flood hazard data provided by FEMA.

Section C. Establishment of Floodplain Development Permit.

A Floodplain Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities in areas of special flood hazard.

Section D. Compliance.

No structure shall hereafter be located, extended, converted or structurally altered within the SFHA without full compliance with the terms of this ordinance and other applicable regulations. No land or stream within the SFHA shall hereafter be 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. Discrepancy between Mapped Floodplain and Actual Ground Elevations.

- (1) In cases where there is a discrepancy between the mapped floodplain (SFHA) on the FIRM and the actual ground elevations, the elevation provided on the profiles shall govern.
- (2) If the elevation of the site in question is below the base flood elevation, that site shall be included in the SFHA and regulated accordingly.
- (3) If the elevation (natural grade) of the site in question is above the base flood elevation and not located within the floodway, that site shall be considered outside the SFHA and the floodplain regulations will not be applied. The property owner shall be advised to apply for a LOMA.

Section G. 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.
- (3) Deemed neither to limit nor repeal any other powers granted under state statutes.

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 available information derived from engineering and scientific methods of study. Larger floods can and will occur on rare occasions. Therefore, this ordinance does not create any liability on the part of [Click here and type name of Community], the Indiana Department of Natural Resources, or the State of Indiana, for any flood damage that results from reliance on this ordinance or any administrative decision made lawfully thereunder.

Section I. Penalties for Violation.

Failure to obtain a Floodplain Development Permit in the SFHA or failure to comply with the requirements of a Floodplain Development Permit or conditions of a variance shall be deemed to be a violation of this ordinance. All violations shall be considered a common nuisance and be treated as such in accordance with the provisions of the Zoning Code for [Click here and type name of Community]. All violations shall be punishable by a fine not exceeding \$[Click here and type amount of fine].

- (1) A separate offense shall be deemed to occur for each day the violation continues to exist.
- (2) The [Click here and type name of Community] [Click here and type Plan Commission or other authority as appropriate] shall inform the owner that any such violation is considered a willful act to increase flood damages and therefore may cause coverage by a Standard Flood Insurance Policy to be suspended.
- (3) Nothing herein shall prevent the [Click here and type either Town, City, or County] from taking such other lawful action to prevent or remedy any violations. All costs connected therewith shall accrue to the person or persons responsible.

Article 4. Administration.

Section A. Designation of Administrator.

The [Click here and type name of governing body] of [Click here and type name of Community] hereby appoints the [Click here and type community official's title] to administer and implement the provisions of this ordinance and is herein referred to as the Floodplain Administrator.

Section B. Permit Procedures.

Application for a Floodplain Development Permit shall be made to the Floodplain Administrator 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) A description of the proposed development.

- b) Location of the proposed development sufficient to accurately locate property and structure(s) in relation to existing roads and streams.
- c) A legal description of the property site.
- d) A site development plan showing existing and proposed development locations and existing and proposed land grades.
- e) Elevation of the top of the planned lowest floor (including basement) of all proposed buildings. Elevation should be in NAVD 88 or NGVD.
- f) Elevation (in NAVD 88 or NGVD) to which any non-residential structure will be floodproofed.
- g) Description of the extent to which any watercourse will be altered or relocated as a result of proposed development. A hydrologic and hydraulic engineering study is required and any watercourse changes submitted to DNR for approval and then to FEMA as a Letter of Map Revision. (See Article 4, Section C. (6) for additional information.)

(2) Construction Stage.

Upon establishment of the lowest floor of an elevated structure or structure constructed on fill, it shall be the duty of the applicant to submit to the Floodplain Administrator a certification of the NAVD 88 or NGVD elevation of the lowest floor, as built. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by the same. The Floodplain Administrator shall review the lowest floor elevation survey data submitted. The applicant shall correct deficiencies detected by such review before any further work is allowed 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. Any work undertaken prior to submission of the elevation certification shall be at the applicant's risk.

Upon establishment of the floodproofed elevation of a floodproofed structure, it shall be the duty of the applicant to submit to the Floodplain Administrator a floodproofing certificate. Certification shall be prepared by or under the direct supervision of a registered professional engineer and certified by same. (The Floodplain Administrator shall review the floodproofing certification submitted.) The applicant shall correct any deficiencies detected by such review before any further work is allowed to proceed. Failure to submit the floodproofing certification or failure to make correction required shall be cause to issue a stop-work order for the project.

(3) Finished Construction. *(Re-number this as (2) if not using the optional language for "Construction stage" immediately above.)*

Upon completion of construction, an elevation certification which depicts the "as-built" lowest floor elevation is required to be submitted to the Floodplain Administrator. If the project includes a floodproofing measure, floodproofing certification is required to be submitted by the applicant to the Floodplain Administrator.

Communities may wish to use the following optional language requiring the FEMA elevation certificate form and FEMA floodproofing certificate from in place of the paragraph immediately above.

Upon completion of construction, a FEMA elevation certificate, Form 81-31, which depicts all finished construction, is required to be submitted to the Floodplain Administrator. If the project includes a floodproofing measure, a FEMA floodproofing certificate, Form 81-65, is required to be submitted by the applicant to the Floodplain Administrator.

Section C. Duties and Responsibilities of the Floodplain Administrator.

The Floodplain Administrator and/or designated staff is hereby authorized and directed to enforce the provisions of this ordinance. The administrator is further authorized to render interpretations of this ordinance, which are consistent with its spirit and purpose.

Duties and Responsibilities of the Floodplain Administrator shall include, but are not limited to:

- (1) Review all floodplain development permits to assure that the permit requirements of this ordinance have been satisfied.
- (2) Inspect and inventory damaged structures in the SFHA and complete substantial damage determinations.
- (3) Ensure that construction authorization has been granted by the Indiana Department of Natural Resources for all development projects subject to Article 5, Section E and G (1) of this ordinance, and maintain a record of such authorization (either copy of actual permit/authorization or floodplain analysis/regulatory assessment).
- (4) Ensure that all necessary federal or state permits have been received prior to issuance of the local floodplain development permit. Copies of such permits/authorizations are to be maintained on file with the floodplain development permit.
- (5) Maintain and track permit records involving additions and improvements to residences located in the floodway.
- (6) Notify adjacent communities and the State Floodplain Coordinator prior to any alteration or relocation of a watercourse, and submit copies of such notifications to FEMA.
- (7) Maintain for public inspection and furnish upon request local permit documents, damaged structure inventories, substantial damage determinations, regulatory flood data, SFHA maps, Letters of Map Change (LOMC), copies of DNR permits, letters of authorization, and floodplain analysis and regulatory assessments (letters of recommendation), federal permit documents, and “as-built” elevation and floodproofing data for all buildings constructed subject to this ordinance.
- (8) Utilize and enforce all Letters of Map Change (LOMC) or Physical Map Revisions (PMR) issued by FEMA for the currently effective SFHA maps of the community.
- (9) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
- (10) Review certified plans and specifications for compliance.
- (11) Verify and record the actual elevation of the lowest floor (including basement) of all new or substantially improved structures, in accordance with Article 4 Section B.
- (12) Verify and record the actual elevation to which any new or substantially improved structures have been floodproofed in accordance with Article 4, Section B.
- (13) Perform a minimum of three inspections to ensure that all applicable ordinance and floodplain development requirements have been satisfied. The first upon the establishment of the Flood Protection Grade reference mark at the development site; the second upon the establishment of the structure’s footprint/establishment of the lowest floor; and the final inspection upon completion and submission of the required finished construction elevation certificate. Authorized **[Click here and type either Town, City, or County]** officials shall have the right to enter and inspect properties located in the SFHA.

(14) Stop Work Orders

- a) Upon notice from the floodplain administrator, work on any building, structure or premises that is being done contrary to the provisions of this ordinance shall immediately cease.
- b) Such notice shall be in writing and shall be given to the owner of the property, or to his agent, or to the person doing the work, and shall state the conditions under which work may be resumed.

(15) Revocation of Permits

- a) The floodplain administrator may revoke a permit or approval, issued under the provisions of the ordinance, in cases where there has been any false statement or misrepresentation as to the material fact in the application or plans on which the permit or approval was based.
- b) The floodplain administrator may revoke a permit upon determination by the floodplain administrator that the construction, erection, alteration, repair, moving, demolition, installation, or replacement of the structure for which the permit was issued is in violation of, or not in conformity with, the provisions of this ordinance.

Article 5. Provisions for Flood Hazard Reduction.

Section A. General Standards.

In all SFHAs and known flood prone areas 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 and 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 below the FPG.
- (4) New construction and substantial improvements shall be constructed by methods and practices that minimize flood damage.
- (5) Electrical, heating, ventilation, plumbing, air conditioning equipment, utility meters, and other service facilities shall be located at/above the FPG or designed so as to prevent water from entering or accumulating within the components below the FPG. Water and sewer pipes, electrical and telephone lines, submersible pumps, and other waterproofed service facilities may be located below the FPG.
- (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 system.
- (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 structure that is in compliance with the provisions of this ordinance shall meet the requirements of “new construction” as contained in this ordinance.
- (10) Parking lots, driveways, and sidewalks within the SFHA shall be constructed with permeable materials.
- (11) Whenever any portion of the SFHA is authorized for use, the volume of space which will be occupied by the authorized fill or structure below the BFE shall be compensated for and balanced by an equivalent volume of excavation taken below the BFE. The excavation volume shall be at least equal to the volume of storage lost (replacement ratio of 1 to 1) due to the fill or structure.
- a) The excavation shall take place in the floodplain and in the same property in which the authorized fill or structure is located.
 - b) Under certain circumstances, the excavation may be allowed to take place outside of but adjacent to the floodplain provided that the excavated volume will be below the regulatory flood elevation, will be in the same property in which the authorized fill or structure is located, will be accessible to the regulatory flood water, will not be subject to ponding when not inundated by flood water, and that it shall not be refilled.
 - c) The excavation shall provide for true storage of floodwater but shall not be subject to ponding when not inundated by flood water.
 - d) The fill or structure shall not obstruct a drainage way leading to the floodplain.
 - e) The grading around the excavation shall be such that the excavated area is accessible to the regulatory flood water.
 - f) The fill or structure shall be of a material deemed stable enough to remain firm and in place during periods of flooding and shall include provisions to protect adjacent property owners against any increased runoff or drainage resulting from its placement.
 - g) Plans depicting the areas to be excavated and filled shall be submitted prior to the actual start of construction or any site work; once site work is complete, but before the actual start of construction, the applicant shall provide to the Floodplain Administrator a certified survey of the excavation and fill sites demonstrating the fill and excavation comply with this article.

Section B. Specific Standards.

In all SFHAs, the following provisions are required:

- (1) In addition to the requirements of Article 5, Section A, all structures to be located in the SFHA shall be protected from flood damage below the FPG. This building protection requirement applies to the following situations:
- a) Construction or placement of any structure having a floor area greater than 400 square feet.
 - b) Addition or improvement made to any existing structure where the cost of the addition or improvement equals or exceeds 50% of the value of the existing structure (excluding the value of the land).
 - c) Reconstruction or repairs made to a damaged structure where the costs of restoring the structure to its before damaged condition equals or exceeds 50% of the market value of the structure (excluding the value of the land) before damage occurred.

- d) Installing a travel trailer or recreational vehicle on a site for more than 180 days.
 - e) Installing a manufactured home on a new site or a new manufactured home on an existing site. This ordinance does not apply to returning the existing manufactured home to the same site it lawfully occupied before it was removed to avoid flood damage.
 - f) Reconstruction or repairs made to a repetitive loss structure.
 - g) Addition or improvement made to any existing structure with a previous addition or improvement constructed since the community's first floodplain ordinance.
- (2) **Residential Structures.** New construction or substantial improvement of any residential structure (or manufactured home) shall have the lowest floor; including basement, at or above the FPG (two feet above the base flood elevation). Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of floodwaters shall be provided in accordance with the standards of Article 5, Section B (4).
- (3) **Non-Residential Structures.** New construction or substantial improvement of any commercial, industrial, or non-residential structure (or manufactured home) shall either have the lowest floor, including basement, elevated to or above the FPG (two feet above the base flood elevation) or be floodproofed to or above the FPG. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of floodwaters shall be provided in accordance with the standards of Article 5, Section B (4). Structures located in all "A Zones" may be floodproofed in lieu of being elevated if done in accordance with the following:
- a) A Registered Professional Engineer or Architect shall certify that the structure has been designed so that below the FPG, the structure and attendant utility facilities are watertight and capable of resisting the effects of the regulatory flood. The structure design shall take into account flood velocities, duration, rate of rise, hydrostatic pressures, and impacts from debris or ice. Such certification shall be provided to the official as set forth in Article 4, Section C (12).
 - b) Floodproofing measures shall be operable without human intervention and without an outside source of electricity.
- (4) **Elevated Structures.** New construction or substantial improvements of elevated structures shall have the lowest floor at or above the FPG.

Elevated structures with fully enclosed areas formed by foundation and other exterior walls below the flood protection 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. Designs must meet the following minimum criteria:

- a) Provide a minimum of two openings located in a minimum of two exterior walls (having a total net area of not less than one square inch for every one square foot of enclosed area).
- b) The bottom of all openings shall be no more than one foot above the exterior grade or the interior grade immediately beneath each opening, whichever is higher.
- c) Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both directions.
- d) Access to the enclosed area shall be the minimum necessary to allow for parking for 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).

- e) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms.
 - f) The interior grade of such enclosed area shall be at an elevation at or higher than the exterior grade.
 - g) Openings are to be not less than 3 inches in any direction in the plane of the wall. This requirement applies to the hole in the wall, excluding any device that may be inserted such as typical foundation air vent device.
 - h) Property owners shall be required to execute a flood openings/venting affidavit acknowledging that all openings will be maintained as flood vents, and that the elimination or alteration of the openings in any way will violate the requirements of Article 5, B. (4). Periodic inspections will be conducted by the Floodplain Administrator to ensure compliance. The affidavit shall be recorded in the office of the **[Click here and type County Name]** County Recorder.
 - i) Property owners shall be required to execute and record with the structure's deed a non-conversion agreement declaring that the area below the lowest floor (where the interior height of the enclosure exceeds 6 feet) shall not be improved, finished or otherwise converted; the community will have the right to inspect the enclosed area. The non-conversion agreement shall be recorded in the office of the **[Click here and type County Name]** County Recorder.
- (5) **Structures Constructed on Fill.** A residential or nonresidential structure may be constructed on a permanent land fill in accordance with the following:
- a) The fill shall be placed in layers no greater than 1 foot deep before compacting to 95% of the maximum density obtainable with either the Standard or Modified Proctor Test method. The results of the test showing compliance shall be retained in the permit file.
 - b) The fill shall extend **[Click here and select a distance between 5 and 15]** feet beyond the foundation of the structure before sloping below the BFE.
 - c) The fill shall be protected against erosion and scour during flooding by vegetative cover, riprap, or bulkheading. If vegetative cover is used, the slopes shall be no steeper than 3 horizontal to 1 vertical.
 - d) The fill shall not adversely affect the flow of surface drainage from or onto neighboring properties.
 - e) The top of the lowest floor including basements shall be at or above the FPG.
 - f) Fill shall be composed of clean granular or earthen material.
- (6) **Standards for Manufactured Homes and Recreational Vehicles.** Manufactured homes and recreational vehicles to be installed or substantially improved on a site for more than 180 days must meet one of the following requirements:
- a) These requirements apply to all manufactured homes to be placed on a site outside a manufactured home park or subdivision; in a new manufactured home park or subdivision; in an expansion to an existing manufactured home park or subdivision; or in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood:

- (i) The manufactured home shall be elevated on a permanent foundation such that the lowest floor shall be at or above the FPG and securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
 - (ii) Fully enclosed areas formed by foundation and other exterior walls below the FPG 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 as required for elevated structures in Article 5, Section B. 4.
 - (iii) Flexible skirting and rigid skirting not attached to the frame or foundation of a manufactured home are not required to have openings.
- b) These requirements apply to all manufactured homes to be placed on a site in an existing manufactured home park or subdivision that has not been substantially damaged by a flood:
 - (i) The manufactured home shall be elevated so that the lowest floor of the manufactured home chassis is supported by reinforced piers or other foundation elevations that are no less than 36 inches in height above grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
 - (ii) Fully enclosed areas formed by foundation and other exterior walls below the FPG 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 as required for elevated structures in Article 5, Section B. 4.
 - (iii) Flexible skirting and rigid skirting not attached to the frame or foundation of a manufactured home are not required to have openings.
- c) Recreational vehicles placed on a site shall either:
 - (i) be on site for less than 180 days; ~~or~~
 - (ii) be fully licensed and ready for highway use (defined as being on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions); or
 - (iii) meet the requirements for “manufactured homes” as stated earlier in this section.
- (7) **Accessory Structures.** Relief to the elevation or dry floodproofing standards may be granted for accessory structures. Such structures must meet the following standards:
 - a) Shall not be used for human habitation.
 - b) Shall be constructed of flood resistant materials.
 - c) Shall be constructed and placed on the lot to offer the minimum resistance to the flow of floodwaters.
 - d) Shall be firmly anchored to prevent flotation.
 - e) Service facilities such as electrical and heating equipment shall be elevated or floodproofed to or above the FPG.
 - f) Shall be designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls as required for elevated structures in Article 5, Section B. 4.

- (8) **Above Ground Gas or Liquid Storage Tanks.** All above ground gas or liquid storage tanks shall be anchored to prevent flotation or lateral movement.

Section C. 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.
- (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 (50) lots or five (5) acres.
- (5) All subdivision proposals shall minimize development in the SFHA and/or limit density of development permitted in the SFHA.
- (6) All subdivision proposals shall ensure safe access into/out of SFHA for pedestrians and vehicles (especially emergency responders).

Section D. Critical Facility.

Construction of new critical facilities shall be, to the extent possible, located outside the limits of the SFHA. Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated to or above the FPG at the site. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the FPG shall be provided to all critical facilities to the extent possible.

Section E. Standards for Identified Floodways.

Located within SFHAs, established in Article 3, Section B, are areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of floodwaters, which carry debris, potential projectiles, and has erosion potential. If the site is in an identified floodway, the Floodplain Administrator shall require the applicant to forward the application, along with all pertinent plans and specifications, to the Indiana Department of Natural Resources and apply for a permit for construction in a floodway. Under the provisions of IC 14-28-1 a permit for construction in a floodway from the Indiana Department of Natural Resources is required prior to the issuance of a local building permit for any excavation, deposit, construction, or obstruction activity located in the floodway. This includes land preparation activities such as filling, grading, clearing and paving etc. undertaken before the actual start of construction of the structure. However, it does exclude non-substantial additions/improvements to existing (lawful) residences in a non-boundary river floodway. (IC 14-28-1-26 allows construction of a non-substantial addition/improvement to a residence in a non-boundary river floodway without obtaining a permit for construction in the floodway from the Indiana Department of Natural Resources. Please note that if fill is needed to elevate an addition above the existing grade, prior approval for the fill is required from the Indiana Department of Natural Resources.)

No action shall be taken by the Floodplain Administrator until a permit or letter of authorization (when applicable) has been issued by the Indiana Department of Natural Resources granting approval for construction in the floodway. Once a permit for construction in a floodway or letter of authorization has been issued by the Indiana Department of Natural Resources, the Floodplain Administrator may issue the

local Floodplain Development Permit, provided the provisions contained in Article 5 of this ordinance have been met. The Floodplain Development Permit cannot be less restrictive than the permit for construction in a floodway issued by the Indiana Department of Natural Resources. However, a community's more restrictive regulations (if any) shall take precedence.

No development shall be allowed, which acting alone or in combination with existing or future development, that will adversely affect the efficiency of, or unduly restrict the capacity of the floodway. This adverse affect is defined as an increase in the elevation of the regulatory flood of at least fifteen-hundredths (0.15) of a foot as determined by comparing the regulatory flood elevation under the project condition to that under the natural or pre-floodway condition as proven with hydraulic analyses.

For all projects involving channel modifications or fill (including levees) the **[Click here and type either town, city, or county]** shall submit the data and request that the Federal Emergency Management Agency revise the regulatory flood data per mapping standard regulations found at 44 CFR § 65.12.

Section F. Standards for Identified Fringe.

If the site is located in an identified fringe, then the Floodplain Administrator may issue the local Floodplain Development Permit provided the provisions contained in Article 5 of this ordinance have been met. The key provision is that the top of the lowest floor of any new or substantially improved structure shall be at or above the FPG.

Section G. Standards for SFHAs without Established Base Flood Elevation and/or Floodways/Fringes.

- (1) Drainage area upstream of the site is greater than one square mile:

If the site is in an identified floodplain where the limits of the floodway and fringe have not yet been determined, and the drainage area upstream of the site is greater than one square mile, the Floodplain Administrator shall require the applicant to forward the application, along with all pertinent plans and specifications, to the Indiana Department of Natural Resources for review and comment.

No action shall be taken by the Floodplain Administrator until either a permit for construction in a floodway (including letters of authorization) or a floodplain analysis/regulatory assessment citing the one-percent annual chance flood elevation and the recommended Flood Protection Grade has been received from the Indiana Department of Natural Resources.

Once the Floodplain Administrator has received the proper permit for construction in a floodway (including letters of authorization) or floodplain analysis/regulatory assessment approving the proposed development, a Floodplain Development Permit may be issued provided the conditions of the Floodplain Development Permit are not less restrictive than the conditions received from the Indiana Department of Natural Resources and the provisions contained in Article 5 of this ordinance have been met.

- (2) Drainage area upstream of the site is less than one square mile:

If the site is in an identified floodplain where the limits of the floodway and fringe have not yet been determined and the drainage area upstream of the site is less than one square mile, the Floodplain Administrator shall require the applicant to provide an engineering analysis showing the limits of the floodplain and one-percent annual chance flood elevation for the site.

Upon receipt, the Floodplain Administrator may issue the local Floodplain Development Permit, provided the provisions contained in Article 5 of this ordinance have been met.

- (3) The total cumulative effect of the proposed development, when combined with all other existing and anticipated development, shall not increase the regulatory flood more than 0.14 of one foot and shall not increase flood damages or potential flood damages.

Section H. Standards for Flood Prone Areas.

All development in known flood prone areas not identified on FEMA maps, or where no FEMA published map is available, shall meet applicable standards as required per Article 5.

**** Include this Section only if the community's FIRM has AO zones.*

Section I. Standards for AO Zones. ***

Located within the SFHAs established in Article 3, Section B, are areas designated as shallow flooding areas. These areas have flood hazards associated with base flood depths of one to three feet (1-3'), where a clearly defined channel does not exist and the water path of flooding is unpredictable and indeterminate; therefore the following provisions shall apply:

- (1) All new construction and substantial improvements of residential and non-residential structures shall have the lowest floor, including basement, elevated two feet (2') greater than the flood depth number specified on the Flood Insurance Rate Map above the highest adjacent grade.
- (2) Drainage paths must be provided to guide floodwaters around and away from proposed structures to be constructed on slopes.
- (3) All new construction and substantial improvements of non-residential structures shall:
 - a) Have the lowest floor, including basement, elevated two feet (2') greater than the flood depth number specified on the Flood Insurance Rate Map above the highest adjacent grade; or,
 - b) Together with attendant utility and sanitary facilities be completely floodproofed to the specified flood level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Certification is required as per Article 5, Section B (3).

Article 6. Variance Procedures.

Section A. Designation of Variance and Appeals Board.

The [Click here and type name of appointed board] shall hear and decide appeals and requests for variances from requirements of this ordinance.

Section B. Duties of Variance and Appeals Board.

The board shall hear and decide appeals when it is alleged an error in any requirement, decision, or determination is made by the Floodplain Administrator in the enforcement or administration of this ordinance. Any person aggrieved by the decision of the board may appeal such decision to the [Click here and type name of appropriate court].

Section C. Variance Procedures.

In passing upon such applications, the board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and;

- (1) The danger of life and property due to flooding or erosion damage.
- (2) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.
- (3) The importance of the services provided by the proposed facility to the community.
- (4) The necessity of the facility to a waterfront location, where applicable.
- (5) The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage.
- (6) The compatibility of the proposed use with existing and anticipated development,
- (7) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area.
- (8) The safety of access to the property in times of flood for ordinary and emergency vehicles.
- (9) The expected height, velocity, duration, rate of rise, and sediment of transport of the floodwaters at the site.
- (10) The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.

Section D. Conditions for Variances.

- (1) Variances shall only be issued when there is:
 - a) A showing of good and sufficient cause.
 - b) A determination that failure to grant the variance would result in exceptional hardship.
 - c) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud or victimization of the public, or conflict with existing laws or ordinances.
- (2) No variance for a residential use within a floodway subject to Article 5, Section E or Section G (1) of this ordinance may be granted.
- (3) Any variance granted in a floodway subject to Article 5, Section E or Section G (1) of this ordinance will require a permit from the Indiana Department of Natural Resources.
- (4) Variances to the Provisions for Flood Hazard Reduction of Article 5, Section B, may be granted only when a new structure is to be located on a lot of one-half acre or less in size, contiguous to and surrounded by lots with existing structures constructed below the flood protection grade.
- (5) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (6) Variances may be granted for the reconstruction or restoration of any structure individually listed on the National Register of Historic Places or the Indiana State Register of Historic Sites and Structures.

- (7) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the Flood Protection Grade and the elevation to which the lowest floor is to be built and stating that the cost of the flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation (See Article 6, Section E).
- (8) The Floodplain Administrator shall maintain the records of appeal actions and report any variances to the Federal Emergency Management Agency or the Indiana Department of Natural Resources upon request (See Article 6, Section E).

Section E. Variance Notification.

Any applicant to whom a variance is granted that allows the lowest floor of a structure to be built below the flood protection grade shall be given written notice over the signature of a community official that:

- (1) The issuance of a variance to construct a structure below the flood protection grade will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage; and;
- (2) Such construction below the flood protection grade increases risks to life and property. A copy of the notice shall be recorded by the Floodplain Administrator in the Office of the County Recorder and shall be recorded in a manner so that it appears in the chain of title of the affected parcel of land.

The Floodplain Administrator will maintain a record of all variance actions, including justification for their issuance.

Section F. Historic Structure.

Variances may be issued for the repair or rehabilitation of “historic structures” upon a determination that the proposed repair or rehabilitation will not preclude the structure’s continued designation as an “historic structure” and the variance is the minimum to preserve the historic character and design of the structure.

Section G. Special Conditions.

Upon the consideration of the factors listed in Article 6, and the purposes of this ordinance, the [Click here and type name of appointed board] may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.

Article 7. Severability.

If any section, clause, sentence, or phrase of the Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this Ordinance.

Article 8. Effective Date.

This ordinance shall be in full force and effect on [Click here and type the effective FIRM date].

Passed by the [Click here and type name of governing body], Indiana on the [Click here and type day of month] day of [Click here and type month], [Click here and type year].

[Click here and type name of governing body]
[Click here and type name of Community], Indiana

[Click here and type name of individual approving]

[Click here and type name of individual approving]

[Click here and type name of individual approving]

Attest: _____
[Click here and type name of individual attesting]