

# WISCONSIN DEPARTMENT OF NATURAL RESOURCES MODEL FLOODPLAIN ORDINANCE FOR CRS and non-CRS WISCONSIN COMMUNITIES

**Effective March 10, 2022**

Please replace title with, " Floodplain Ordinance for [Name of your Community]

Effective: Insert date ordinance was adopted by the community"

A cooperative effort of  
WI Department of Natural Resource (DNR)  
and  
Federal Emergency Management Agency (FEMA)

## Key for editing:

- Blue highlights are instructional for the ordinance writer and can be deleted once the item is completed
- Yellow highlights are places where the ordinance needs to be filled in with community specific information
- Grey highlights are ordinance additions for communities that choose to implement Act 175
- Red highlights are ordinance additions for communities that have existing Cranberry Farms (FA-C) (when applicable)
- Green highlights are ordinance additions for communities that have adopted a Flood Storage District (when applicable)
- Pink highlights are ordinance additions for communities that have adopted a Coastal Floodplain District (CFD) (Great Lakes when applicable)
- Comment bubbles indicate Community Rating System (CRS)-required higher standards. CRS is a voluntary federal program. If you received this ordinance document as a pdf, the comment bubbles containing the CRS language will not show. For more information on CRS go to <https://www.fema.gov/floodplain-management/community-rating-system> .To obtain an editable version of the ordinance that shows the comment bubbles, or to obtain more information about CRS, please reach out to [DNRfloodplain@wisconsin.gov](mailto:DNRfloodplain@wisconsin.gov))

## Adoption schedule tracking

1. **Date of Public Hearing:** \_\_\_\_\_
  - a. (Requires a Class 2 Hearing Notice of Publication or Posting)
2. **Date of Adoption:** \_\_\_\_\_
3. **Dates of Publication or Posting:** \_\_\_\_\_
  - a. (Second/last date must be at least 7 days before hearing, see definition, Ch 985 Stats)
4. **Date of Publication or Posting of Notice of Enacted Ordinance:**
  - a. \_\_\_\_\_

## STATUTORY APPROVAL REQUIREMENTS

**\*\*This whole page can be deleted. It is for informational purposes and does not need to remain in the ordinance**

The public hearing notice must be published for 2 consecutive weeks , THE SECOND TIME AT LEAST 7 DAYS BEFORE THE HEARING, to meet statutory notice requirements to legally adopt any floodplain zoning ordinance or amendment. The community must also furnish a certified copy of the ordinance and proof of publication or posting of the amended ordinance.

There are places in this document where blanks must be completed. After filling in those blanks (and putting in proper map references), publishing a Class 2 public hearing notice, and conducting the hearing, this document may be adopted by the municipality's governing body.

This model ordinance includes both the minimum regulatory standards required in ch. NR 116, Wis. Admin. Code, and those of the National Flood Insurance Program 44 CFR 59-72. Section 87.30(1)(b), Stats., permits a county, city, village, or town to adopt a floodplain zoning ordinance that is more restrictive than the provisions required by the State, but not less restrictive. If a municipality desires to adopt higher standards, we recommend crafting the language and asking DNR to review to confirm that the higher standard language meet exceed state and federal minimums.

- For municipalities that are required to update their floodplain zoning ordinance as part of a FEMA floodplain map update, please submit the updated ordinance to the DNR central office floodplain zoning specialist 3 to 4 months before the federal deadline.
- For municipalities that are updating their floodplain zoning ordinance for reasons OTHER than a FEMA floodplain map update please submit the proposed ordinance to the DNR central office floodplain zoning specialist for review at least 30 days before the public hearing to determine whether it meets all minimum standards.

Please submit your draft ordinance electronically. If you have made any changes to the model ordinance, please note the location of those changes in the draft.

After public hearing and adoption, it is an added expense for the municipality to change unacceptable ordinance language. No floodplain zoning ordinance amendment is effective until officially approved by DNR. All amendments are submitted to the Federal Emergency Management Agency by the DNR on behalf of the municipality.

Model ordinances and FEMA flood insurance maps are periodically revised. Contact the DNR before public hearing or adoption to assure you are using the most recent and accurate map and ordinance text available.

A handbook entitled *The Floodplain-Shoreland Management Guidebook* has been developed and distributed to all counties, cities and villages with floodplain or shoreland zoning ordinances. Look for publication in your municipal zoning office for answers to many questions about floodplain, wetland and shoreland zoning, dam safety, and the NFIP. The *Guidebook* is also available for download on the DNR website.

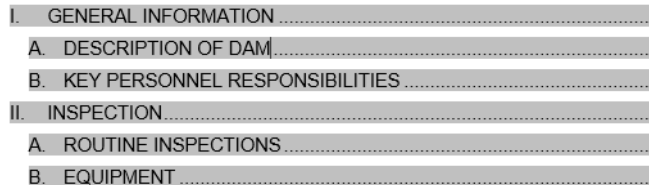
If possible, please submit your draft ordinance electronically. If you have made any changes to the model ordinance, please note the location of the changes in the draft.

**!! Instructional Information Only !!**

**[Please delete THIS ENTIRE PAGE when ordinance update is complete.]**

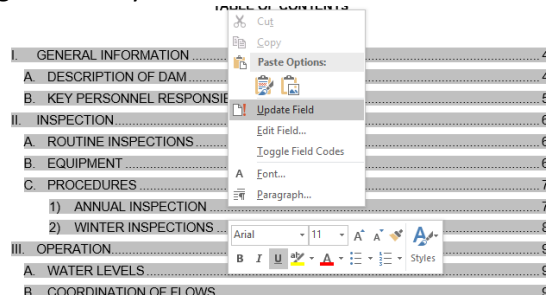
After all updates are done, you will need to update the table of contents. Because this is a linked function within document, the page references will update automatically when you tell it to do so:

1. Click anywhere in the table of contents so that gray shows up behind the words.

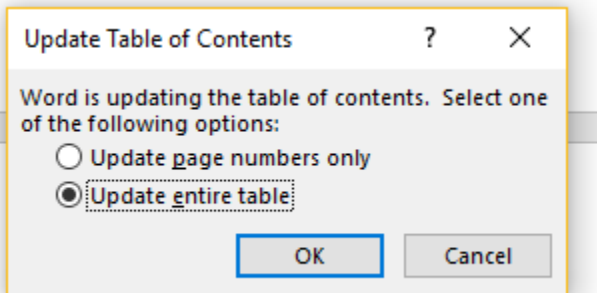


I. GENERAL INFORMATION .....	
A. DESCRIPTION OF DAM .....	
B. KEY PERSONNEL RESPONSIBILITIES .....	
II. INSPECTION .....	
A. ROUTINE INSPECTIONS .....	
B. EQUIPMENT .....	

2. Right click anywhere in the table of contents so that a window pops up. Select “Update Field”



3. Select “Update entire table” so that both the headings and page numbers update. If you changed heading names you may notice that some of the headings will not be capitalized correctly – you will need to find them in the document for formatting and then repeat steps 1-3.



If you make further changes (like deleting this page) and just need to update the page numbers, repeat steps 1-3...this time, you can select “Update page numbers only”.

TABLE OF CONTENTS

1.0 STATUTORY AUTHORIZATION, FINDING OF FACT, STATEMENT OF PURPOSE, TITLE,  
AND GENERAL PROVISIONS ..... 6

1.1 STATUTORY AUTHORIZATION..... 6

1.2 FINDING OF FACT ..... 6

1.3 STATEMENT OF PURPOSE..... 6

1.4 TITLE..... 6

1.5 GENERAL PROVISIONS..... 6

    (1) AREAS TO BE REGULATED..... 6

    (2) OFFICIAL MAPS & REVISIONS ..... 6

    (3) ESTABLISHMENT OF FLOODPLAIN ZONING DISTRICTS ..... 8

    (4) LOCATING FLOODPLAIN BOUNDARIES ..... 8

    (5) REMOVAL OF LANDS FROM FLOODPLAIN..... 8

    (6) COMPLIANCE ..... 9

    (7) MUNICIPALITIES AND STATE AGENCIES REGULATED..... 9

    (8) ABROGATION AND GREATER RESTRICTIONS..... 10

    (9) INTERPRETATION ..... 10

    (10) WARNING AND DISCLAIMER OF LIABILITY ..... 10

    (11) SEVERABILITY..... 10

    (12) ANNEXED AREAS FOR CITIES AND VILLAGES ..... 10

2.0 GENERAL STANDARDS APPLICABLE TO ALL FLOODPLAIN DISTRICTS..... 10

    2.1 HYDRAULIC AND HYDROLOGIC ANALYSES..... 11

    2.2 WATERCOURSE ALTERATIONS..... 11

    2.3 CHAPTER 30, 31, WIS. STATS., DEVELOPMENT..... 11

    2.4 PUBLIC OR PRIVATE CAMPGROUNDS..... 12

    2.5 FLOODED AGRICULTURE – CRANBERRY FARMS (FA-C)..... 13

3.0 FLOODWAY DISTRICT (FW)..... 18

    3.1 APPLICABILITY ..... 19

    3.2 PERMITTED USES ..... 19

    3.3 STANDARDS FOR DEVELOPMENT IN THE FLOODWAY ..... 19

    3.4 PROHIBITED USES ..... 21

4.0 FLOODFRINGE DISTRICT (FF) ..... 22

    4.1 APPLICABILITY ..... 22

    4.2 PERMITTED USES ..... 22

    4.3 STANDARDS FOR DEVELOPMENT IN THE FLOODFRINGE ..... 22

5.0 OTHER FLOODPLAIN DISTRICTS ..... 24

    5.1 GENERAL FLOODPLAIN DISTRICT (GFP)..... 24

    5.2 FLOOD STORAGE DISTRICT (WHEN APPLICABLE) ..... 26

    5.3 COASTAL FLOODPLAIN DISTRICT (CFD) (WHEN APPLICABLE) ..... 26

6.0 NONCONFORMING USES..... 29

    6.1 GENERAL ..... 29

    6.2 FLOODWAY DISTRICT ..... 34

    6.3 FLOODFRINGE DISTRICT ..... 34

6.4 FLOOD STORAGE DISTRICTS (RESERVED - WHEN APPLICABLE)	35
6.5 COASTAL FLOODPLAIN DISTRICT (CFD) (RESERVED - WHEN APPLICABLE)	35
7.0 ADMINISTRATION	35
7.1 ZONING ADMINISTRATOR	35
7.2 ZONING AGENCY	40
7.3 BOARD OF ADJUSTMENT/APPEALS	41
7.4 TO REVIEW APPEALS OF PERMIT DENIALS	43
7.5 FLOODPROOFING STANDARDS	44
7.6 PUBLIC INFORMATION	45
8.0 AMENDMENTS	45
8.1 GENERAL	45
9.0 ENFORCEMENT AND PENALTIES	46
10.0 DEFINITIONS	46

## **1.0 STATUTORY AUTHORIZATION, FINDING OF FACT, STATEMENT OF PURPOSE, TITLE, AND GENERAL PROVISIONS**

### **1.1 STATUTORY AUTHORIZATION**

This ordinance is adopted pursuant to the authorization in s. 61.35 and 62.23, for villages and cities; s. 59.69, s. 59.692, and s. 59.694 for counties [Choose depending on if you are county or village/city]; and the requirements in s. 87.30, Stats.

### **1.2 FINDING OF FACT**

Uncontrolled development and use of the floodplains and rivers of this municipality would impair the public health, safety, convenience, general welfare, and tax base.

### **1.3 STATEMENT OF PURPOSE**

This ordinance is intended to regulate floodplain development to:

- (1) Protect life, health and property;
- (2) Minimize expenditures of public funds for flood control projects;
- (3) Minimize rescue and relief efforts undertaken at the expense of the taxpayers;
- (4) Minimize business interruptions and other economic disruptions;
- (5) Minimize damage to public facilities in the floodplain;
- (6) Minimize the occurrence of future flood blight areas in the floodplain;
- (7) Discourage the victimization of unwary land and homebuyers;
- (8) Prevent increases in flood heights that could increase flood damage and result in conflicts between property owners; and
- (9) Discourage development in a floodplain if there is any practicable alternative to locate the activity, use or structure outside of the floodplain.

### **1.4 TITLE**

This ordinance shall be known as the Floodplain Zoning Ordinance for \_\_\_\_\_, Wisconsin.

### **1.5 GENERAL PROVISIONS**

#### **(1) AREAS TO BE REGULATED**

This ordinance regulates all areas of special flood hazard identified as zones A, AO, AH, A1-30, AE, VE, V1-30, or V on the Flood Insurance Rate Map. Additional areas identified on maps approved by the Department of Natural Resources (DNR) and local community may also be regulated under the provisions of this ordinance, where applicable.

#### **(2) OFFICIAL MAPS & REVISIONS**

Special Flood Hazard Areas (SFHA) are designated as zones A, A1-30, AE, AH, AO, VE, V1-30, or V on the Flood Insurance Rate Maps (FIRMs) based on flood hazard analyses summarized in the Flood Insurance Study (FIS) listed in subd. (a) below. Additional flood hazard areas subject to regulation under this ordinance are identified on maps based on studies approved by the DNR and listed in subd. (b) below. These maps and revisions are on file in the office of the **(municipal officer), (municipal name)**.

- (a) OFFICIAL MAPS: Based on the Flood Insurance Study (FIS): **[select all of the following map citations that apply to your community; contact your DNR office if you have questions, or go to the FEMA Flood Map Service Center | Search All Products to access the maps]**

1. Flood Insurance Rate Map (FIRM), panel number **(fill in all community panel numbers here)**, dated **(fill in map date(s) here)**;
2. **(Repeat text above as necessary for each county, or each community-specific FIRM onto which any portion of the community's corporate limits**

extend)

3. Flood Insurance Study (FIS) for (fill in name of county) here, dated (fill in FIS date here).
4. (Repeat text above as necessary for each county, or each community-specific FIS summarizing data for a FIRM onto which the community's corporate limits extend)
5. (If applicable) Flood Hazard Boundary Map (FHBM) panel number (fill in community panel number here), dated (fill in map date here).
6. (If applicable) Letter of Map Revision (case number and effective date).
7. (If applicable) Conditional Letter of Map Change (case number and issue date)

Approved by: The DNR and FEMA

(b) OFFICIAL MAPS: Based on other studies. Any maps referenced in this section must be approved by the DNR and be more restrictive than those based on the FIS at the site of the proposed development. ***(The following are examples of other types of maps you may need to adopt.)***

1. (Name of Dam) Dam Failure analysis approved by the Department of Natural Resources on (Insert DFA approval date), including:
  - i. Map dated (Insert date as shown on the map) and titled ("Insert map title"). (If necessary, indicate which boundary to use and/or start and end stations of the regulatory profile).
  - ii. Floodway data table dated (Insert date as shown on the table) and titled ("Insert floodway data table title"). If necessary, indicate what column (table if more than one included) to use and start and end stations of the regulatory profile.
  - iii. Flood profiles dated (Insert date as shown on the flood profiles) and titled ("Insert flood profiles title and if necessary, indicate which profile to use and start and end stations of the regulatory profile").
2. Floodplain study for (Name of Waterway) completed by (name of person or consulting firm) and approved by the Department of Natural Resources on (approval date).
  - i. Map dated (Insert date as shown on the map) and titled ("Insert map title"). (If necessary, indicate which boundary to use and/or start and end stations of the regulatory profile).
  - ii. Floodway data table dated (Insert date as shown on the table) and titled ("Insert floodway data table title"). If necessary, indicate what column (table if more than one included) to use and start and end stations of the regulatory profile.
  - iii. Flood profiles dated (Insert date as shown on the flood profiles) and titled ("Insert flood profiles title and if necessary, indicate which profile to use and start and end stations of the regulatory profile").
3. Flood Storage Map, panel number (fill in panel number here), dated (fill in map date here), approved by the DNR. (when applicable)

4. (Identify any other studies approved by local community and DNR.)

(3) ESTABLISHMENT OF FLOODPLAIN ZONING DISTRICTS

The flood hazard areas regulated by this ordinance are divided into districts as follows:

- a) The Floodway District (FW), is the channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional floodwaters, within AE Zones as shown on the FIRM, or within A Zones shown on the FIRM when determined according to s. 5.1(5).
- b) The Floodfringe District (FF) is that portion of a riverine special flood hazard area outside the floodway within AE Zones on the FIRM, or, when floodway limits have been determined according to s. 5.1(5), within A Zones shown on the FIRM.
- c) The General Floodplain District (GFP) is those riverine areas that may be covered by floodwater during the regional flood in which a floodway boundary has not been delineated on the FIRM and also includes shallow flooding areas identified as AH and AO zones on the FIRM.
- d) The Coastal Floodplain District (CFP) is an area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast, and any other area subject to high velocity wave action from storms, including areas identified as zone V, V1-30, or VE on the FIRM. Where a riverine AE floodway extends into the CFP district, development within the floodway must comply with the regulations for both the FW and CFP districts. Where a riverine A zone or AE zone with no floodway determination abuts the CFP district, the riverine study's floodway limit must be determined based on standard floodway expansion principles within the CFP district and development within the floodway must comply with the standards for both the FW and CFP districts.
- e) The Flood Storage District (FSD) is that area of the floodplain where storage of floodwaters is calculated to reduce the regional flood discharge.

(4) LOCATING FLOODPLAIN BOUNDARIES

Discrepancies between the exterior boundaries of zones A1-30, AE, AH, or A on the official floodplain zoning map and actual field conditions may be resolved using the criteria in subd (a) or (b) below. If a significant difference exists, the map shall be amended according to s. 8.0 *Amendments*. The zoning administrator can rely on a boundary derived from a profile elevation to grant or deny a land use permit, whether or not a map amendment is required. The zoning administrator shall be responsible for documenting actual pre-development field conditions and the basis upon which the district boundary was determined. Disputes between the zoning administrator and an applicant over the district boundary line shall be settled according to s. 7.3(3) and the criteria in (a) and (b) below. Where the flood profiles are based on established base flood elevations from a FIRM, FEMA must approve any map amendment or revision pursuant to s. 8.0 *Amendments*.

- a) If flood profiles exist, the map scale and the profile elevations shall determine the district boundary. The regional or base flood elevations shall govern if there are any discrepancies.
- b) Where flood profiles do not exist for projects, including any boundary of zone A, AO, V1-30, VE, or V, the location of the boundary shall be determined by the map scale.

(5) REMOVAL OF LANDS FROM FLOODPLAIN

- a) Compliance with the provisions of this ordinance shall not be grounds for removing land from



the floodplain unless it is filled at least two feet above the regional or base flood elevation, the fill is contiguous to land outside the floodplain, and the map is amended pursuant to s. 8.0 *Amendments*.

- b) The delineation of any of the Floodplain Districts may be revised by the community where natural or man-made changes have occurred and/or where more detailed studies have been conducted. However, prior to any such change, approval must be obtained from the Wisconsin Department of Natural Resources and Federal Emergency Management Agency. A completed Letter of Map Revision is a record of this approval. The floodplain administrator shall not sign a community acknowledgement form unless all criteria set forth in the following paragraphs are met:
  - 1. The land and/or land around the structure must be filled at least two feet above the regional or base flood elevation;
  - 2. The fill must be contiguous to land outside the floodplain; Applicant shall obtain floodplain development permit before applying for a LOMR or LOMR-F;
- c) Removal of lands from the floodplain may also occur by operation of §87.30(1)(e), Wis. Stat. if a property owner has obtained a letter of map amendment from the federal emergency management agency under 44 C.F.R. 70.

#### (6) COMPLIANCE

- a) No structure or use within areas regulated by this ordinance shall hereafter be located, erected, constructed, reconstructed, repaired, extended, converted, enlarged, or altered without full compliance with the terms of these regulations and all other applicable regulations that apply to uses within the jurisdiction of these regulations.
- b) Failure to obtain a floodplain development permit shall be a violation of these regulations and shall be punishable in accordance with s. 9.0.
- c) Floodplain development permits issued on the basis of plans and applications approved by the Floodplain Administrator authorize only the use, and arrangement, set forth in such approved plans and applications, or amendments thereto if approved by the Floodplain Administrator. Use, arrangement, or construction contrary to that authorized shall be deemed a violation of these regulations and punishable in accordance with s. 9.0.

#### (7) MUNICIPALITIES AND STATE AGENCIES REGULATED

Unless specifically exempted by law, all cities, villages, towns, and counties are required to comply with this ordinance and obtain all necessary permits. State agencies are required to comply if s. 13.48(13), Stats., applies. The construction, reconstruction, maintenance and repair of state highways and bridges by the Wisconsin Department of Transportation is exempt when s. 30.2022, Stats., applies. Although exempt from a local zoning permit and permit fees, DOT must provide sufficient project documentation and analysis to ensure that the community is in compliance with Federal, State, and local floodplain standards. If a local transportation project is located within a Zone A floodplain and is not a WisDOT project under s. 30.2022, then the road project design documents (including appropriate detailed plans and profiles) may be sufficient to meet the requirements for issuance of a local floodplain permit if the following apply: The applicant provides documentation to the Floodplain Administrator that the proposed project is a culvert replacement or bridge replacement under 20' span at the same location, the project is exempt from a DNR permit under s. 30.123(6)(d), the capacity is not decreased, the top road grade is not raised, and no floodway data is available from a federal, state, or other source. If floodway data is available in the impacted area from a federal, state, or other source that existing data must be utilized by the applicant in the analysis of the project site.

(8) ABROGATION AND GREATER RESTRICTIONS

- a) This ordinance supersedes all the provisions of any municipal zoning ordinance enacted under s. 59.69, 59.692 or 59.694 for counties; or s. 62.23 for cities; or s. 61.35 for villages; or s. 87.30, Stats., [Choose depending on if you are county or village or city] which relate to floodplains. A more restrictive ordinance shall continue in full force and effect to the extent of the greater restrictions, but not otherwise.
- b) This ordinance is not intended to repeal, abrogate, or impair any existing deed restrictions, covenants, or easements. If this ordinance imposes greater restrictions, the provisions of this ordinance shall prevail.

(9) INTERPRETATION

In their interpretation and application, the provisions of this ordinance are the minimum requirements liberally construed in favor of the governing body and are not a limitation on or repeal of any other powers granted by the Wisconsin Statutes. If a provision of this ordinance, required by ch. NR 116, Wis. Adm. Code, is unclear, the provision shall be interpreted in light of the standards in effect on the date of the adoption of this ordinance or in effect on the date of the most recent text amendment to this ordinance.

(10) WARNING AND DISCLAIMER OF LIABILITY

The flood protection standards in this ordinance are based on engineering experience and research. Larger floods may occur, or the flood height may be increased by man-made or natural causes. This ordinance does not imply or guarantee that non-floodplain areas or permitted floodplain uses will be free from flooding and flood damages. This ordinance does not create liability on the part of, or a cause of action against, the municipality or any officer or employee thereof for any flood damage that may result from reliance on this ordinance.

(11) SEVERABILITY

Should any portion of this ordinance be declared unconstitutional or invalid by a court of competent jurisdiction, the remainder of this ordinance shall not be affected.

(12) ANNEXED AREAS FOR CITIES AND VILLAGES

The \_\_\_\_\_ County floodplain zoning provisions in effect on the date of annexation shall remain in effect and shall be enforced by the municipality for all annexed areas until the municipality adopts and enforces an ordinance which meets the requirements of ch. NR 116, Wis. Adm. Code and 44 CFR 59-72, *National Flood Insurance Program* (NFIP). These annexed lands are described on the municipality's official zoning map. County floodplain zoning provisions are incorporated by reference for the purpose of administering this section and are on file in the office of the municipal zoning administrator. All plats or maps of annexation shall show the regional flood elevation and the floodway location.

**2.0 GENERAL STANDARDS APPLICABLE TO ALL FLOODPLAIN DISTRICTS**

The community shall review all permit applications to determine whether proposed building sites will be reasonably safe from flooding and assure that all necessary permits have been received from those governmental agencies whose approval is required by federal or state law.

- 1) If a proposed building site is in a flood-prone area, all new construction and substantial improvements shall:
  - a. be designed and anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
  - b. be constructed with flood-resistant materials;

- c. be constructed by methods and practices that minimize flood damages; and
  - d. Mechanical and utility equipment must be elevated to or above the flood protection elevation.
- 2) If a subdivision or other proposed new development is in a flood-prone area, the community shall assure that:
- a. such proposed subdivision or other proposed new development is consistent with the need to minimize flood damage within the flood-prone area;
  - b. public utilities and facilities such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage; and
  - c. adequate drainage is provided to reduce exposure to flood hazards.

All subdivision proposals (including manufactured home parks) shall include regional flood elevation and floodway data for any development that meets the subdivision definition of this ordinance and all other requirements in s. 7.1(2).

## **2.1 HYDRAULIC AND HYDROLOGIC ANALYSES**

- 1) No floodplain development shall:
- a. Obstruct flow, defined as development which blocks the conveyance of floodwaters by itself or with other development, causing any increase in the regional flood height; or
  - b. Cause any increase in the regional flood height due to floodplain storage area lost.
- 2) The zoning administrator shall deny permits if it is determined the proposed development will obstruct flow or cause any increase in the regional flood height, based on the officially adopted FIRM or other adopted map, unless the provisions of s. 8.0 *Amendments* are met.

## **2.2 WATERCOURSE ALTERATIONS**

No land use permit to alter or relocate a watercourse in a mapped floodplain shall be issued until the local official has notified in writing all adjacent municipalities, the Department and FEMA regional offices, and required the applicant to secure all necessary state and federal permits. The standards of s. 2.1 must be met and the flood carrying capacity of any altered or relocated watercourse shall be maintained.

As soon as is practicable, but not later than six months after the date of the watercourse alteration or relocation and pursuant to s. 8.0 *Amendments*, the community shall apply for a Letter of Map Revision (LOMR) from FEMA. Any such alterations must be reviewed and approved by FEMA and the DNR through the LOMC process.

## **2.3 CHAPTER 30, 31, WIS. STATS., DEVELOPMENT**

Development which requires a permit from the Department, under chs. 30 and 31, Stats., such as docks, piers, wharves, bridges, culverts, dams, and navigational aids, may be allowed if the necessary permits are obtained and amendments to the floodplain zoning ordinance are made according to s. 8.0 *Amendments*.

## **2.4 PUBLIC OR PRIVATE CAMPGROUNDS**

Public or private campgrounds shall have a low flood damage potential and shall meet the following provisions:

- 1) The campground is approved by the Department of Agriculture, Trade and Consumer Protection;
- 2) A land use permit for the campground is issued by the zoning administrator;
- 3) The character of the river system and the campground elevation are such that a 72-hour warning of an impending flood can be given to all campground occupants;
- 4) There is an adequate flood warning procedure for the campground that offers the minimum notice required under this section to all persons in the campground. This procedure shall include a written agreement between the campground owner, the floodplain zoning agency or zoning administrator, the municipal emergency government coordinator and the chief law enforcement official which specifies the flood elevation at which evacuation shall occur, personnel responsible for monitoring flood elevations, types of warning systems to be used and the procedures for notifying at-risk parties, and the methods and personnel responsible for conducting the evacuation;
- 5) This agreement shall be for no more than one calendar year, at which time the agreement shall be reviewed and updated - by the officials identified in sub. (4) - to remain in compliance with all applicable regulations, including those of the state Department of Agriculture, Trade and Consumer Protection and all other applicable regulations;
- 6) All mobile recreational vehicles placed on site must meet one of the following:
  - a. Be fully licensed, if required, and ready for highway use; or
  - b. Not occupy any site in the campground for more than 180 consecutive days, at which time the recreational vehicle must be removed from the floodplain for a minimum of 24 hours; or
  - c. Meet the requirements in either s. 3.0, 4.0, 5.1, or 5.3 for the floodplain district in which the structure is located;

A mobile 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 utilities and security devices and has no permanently attached additions.
- 7) All camping units that remain on site for more than 30 days shall be issued a limited authorization by the campground operator, a written copy of which is kept on file at the campground. Such authorization shall allow placement of a camping unit consistent with 2.4(6) and shall ensure compliance with all the provisions of this section;
- 8) The municipality shall monitor the limited authorizations issued by the campground operator to assure compliance with the terms of this section;
- 9) The campground shall have signs clearly posted at all entrances warning of the flood hazard and the procedures for evacuation when a flood warning is issued; and
- 10) All service facilities, including but not limited to refuse collection, electrical service, gas lines, propane tanks, sewage systems and wells shall be properly anchored and placed at or floodproofed to the flood protection elevation; and

11) Standards for structures in a campground:

- a. All structures must comply with section 2.4 or meet the applicable requirements in ss. 3.0, 4.0, 5.1, or 5.3 for the floodplain district in which the structure is located;
- b. Deck/landing-a portable landing may be allowed for a camping unit for each entry provided that the landing is not permanently attached to the ground or camping unit, is no more than 200 square feet in size, shall be portable, contain no walls or roof, and can be removed from the campground by a truck and/or trailer. Sections of such portable landings may be placed together to form a single deck not greater than 200 square feet at one entry point. Provisions for the removal of these temporary landings during flood events must be addressed within the written agreement with the municipality compliant with section 2.4(4). Any such deck/landing structure may be constructed at elevations lower than the flood protection elevation but must not obstruct flow of flood waters or cause any increase in flood levels during the occurrence of the regional flood.
- c. Decks/patios that are constructed completely at grade may be allowed but must also comply with applicable shoreland zoning standards.
- d. Camping equipment and appurtenant equipment in the campground may be allowed provided that the equipment is not permanently attached to the ground or camping unit, is not used as a habitable structure, and must not obstruct flow of flood waters or cause any increase in flood levels during the occurrence of the regional flood. Provisions for the removal of this equipment during flooding events shall be addressed within the written agreement with the municipality compliant with section 2.4(4).
- e. Once a flood warning in the written agreement has been issued for the campground, the campground owner or the designated operator shall ensure that all persons, camping units, decks, camping equipment and appurtenant equipment in the campground shall be evacuated within the timelines specified within the written agreement with the municipality compliant with section 2.4(4).

12) A land use permit shall be obtained as provided under 7.1(2) before any development; repair, modification, or addition to an existing structure; or change in the use of a building or structure, including sewer and water facilities, may be initiated.

**2.5 FLOODED AGRICULTURE – CRANBERRY FARMS (FA-C)**

**[Delete entire section if the community does not contain cranberry farms]**

**1) STATEMENT OF PURPOSE - The Federal government created the National Flood Insurance Program (NFIP) to establish flood risk zones and to provide flood insurance to property owners in communities that adopt and enforce floodplain regulations in accordance with regulatory floodplain maps approved by the Federal Emergency Management Agency (FEMA). In recognition of the NFIP's requirements, the following ordinance shall apply to flooded agriculture-cranberry farms (FA-C).**

**Cranberry farming uses extensive water management systems that are often located in areas designated as a Special Flood Hazard Area (SFHA).**

**Within the SFHA, this ordinance establishes the minimum floodplain regulations, which apply to maintenance and FA-C development activities, and it preserves the orderly and efficient use of land for agricultural purposes. The provisions of this ordinance are limited to floodplain**

management requirements. This section is designed to clarify permit procedures for routine activities related to cranberry culture.

- 2) **APPLICABILITY** - The ordinance provisions for this district shall only apply to flooded agriculture - cranberry farms (FA-C) in the SFHA as identified on the effective Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map (FHBM) for the community. The intent of this district is to provide a consistent regulatory framework for both maintenance and development activities, which are required for the efficient management of a cranberry farming operation.

These provisions describe the activities associated with FA-C, the potential for each activity to impact the Base Flood Elevation (BFE) or floodway and the requirements for each activity. This ordinance does not apply to the construction, maintenance, repair or modification of any building in this district. Buildings and all other development activities not associated with cranberry farming are regulated by other sections of this floodplain zoning ordinance.

- 3) **PERMITTED USE** - Any use or Flooded Agriculture (FA) development activity, which occurs in a FA-C must meet the requirements in this section.

4) **DEFINITIONS**. In this section:

- a. "Department" means the Wisconsin Department of Natural Resources.
- b. "Existing cranberry farm" means the area of active cranberry farming as established pursuant to Section 2.5 (5).
- c. "FA-C" means the portions of the existing cranberry farm as defined in section 2.5(5) and that are subject to the SFHA regulations.
- d. "FA-C development activities" are development activities listed in Section 2.5 (6) (d). FA-C development activities do not include maintenance activities and do not include the construction, maintenance, repair or modification of any building.
- e. "Permit required" means that a FA-C Permit is required.
- f. "Perimeter dike" means the dike or system of dikes that are closest to the boundary line of the existing cranberry farm, usually the outermost dike.
- g. "Maintenance activities" are activities identified in Section 2.5 (8) (d) that take place within the boundary of an existing cranberry farm.
- h. "Special Flood Hazard Area (SFHA)" means an area having special flood hazards and is shown on a Flood Hazard Boundary Map or a Flood Insurance Rate Map as an A, AE, AH or AO zone.

- 5) **ESTABLISHMENT OF EXISTING CRANBERRY FARM** - The construction or maintenance of a building is not covered by this section. (For construction or maintenance, please refer to sections 3.0, 4.0 and 5.1 of the ordinance.)

- a. To establish the boundary of an "existing cranberry farm," a person must file with the community a certified legal description of the farm boundary as it existed on <<INSERT the effective date of the first adopted FIRM or FHBM>>. The area of existing use includes all farm production areas, all farm support land and all farm support areas including dikes, impoundments, water storage reservoirs, ditches, sand stockpiles and roads. The area of established use does not include buildings.
- b. Upon issuance of the FA-C permit, the FA-C development that is completed in

accordance with the FA-C permit shall be established as an existing cranberry farm upon completion.

6) REQUIREMENTS FOR NEW FA-C DEVELOPMENT ACTIVITIES IN FLOODED AGRICULTURE– CRANBERRY FARMS (For construction or maintenance, please refer to sections 3.0, 4.0 and 5.1 of the ordinance.)

a. A Zones: FA-C development activities in an A Zone may not cause a cumulative impact on the base flood elevation (BFE) of more than 1.0 (one) foot at any point on the waterway. If any project causes an increase in flooding elevations that would impact other properties, then the provisions of the community's floodplain zoning standards apply. Increases equal to or greater than one foot would require submittal of the engineering study to FEMA for a Conditional Letter of Map Revision (CLOMR). It is the project sponsor's responsibility to contract for and submit the engineering study to the community. All studies shall be reviewed and approved by the Department at the community's request. It is the community's responsibility to determine if the project meets the district criteria, determine if a permit is appropriate, and submit the CLOMR application to FEMA when necessary.

b. AE Zones: FA-C development activities in the designated floodway of an AE Zone must be analyzed using the current, effective hydraulic model to ensure that the project does not cause an increase to the BFE. If any project causes an increase in flooding elevations that would impact other properties, the provisions of NR 116.11(3) apply. Any increase requires submittal of the engineering study to FEMA for a Conditional Letter of Map Revision (CLOMR). It is the project sponsor's responsibility to contract for and submit the engineering study to the community. All studies shall be reviewed and approved by the Department at the community's request. It is the community's responsibility to determine if the project meets the district criteria, determine if a permit is appropriate, and submit the CLOMR application to FEMA when necessary.

c. All FA-C development activities require a FA-C permit in accordance with Section 2.5 (9).

d. FA-C development activities include:

1. New Dikes and Impoundments. Construction of a dike or an impoundment outside the boundary of existing cranberry farm. Includes the use of heavy machinery.

2. New Ditches. Construction of a new ditch outside the boundary of existing cranberry farm. Includes the use of heavy machinery to dig the ditch and the removal of plant and debris material.

3. New Farm Roads. Construction of a farm road outside the boundary of existing cranberry farm. Includes the placement of materials as appropriate to build a road that is adequate for expected loads.

4. New Reservoirs. Construction of a reservoir outside the boundary of existing cranberry farm. Includes the use of heavy machinery for excavation.

5. Sand Mining. Sand Mining outside the boundary of existing cranberry farm. Includes the extraction and stockpiling of sand using heavy equipment or hydraulic dredges.

6. New Water Control Structures. Placement of a water control structure in a ditch or reservoir outside the boundary of existing cranberry farm. Includes the placement of a bulkhead or other water control structure in a dike to control water movement in ditches and reservoirs. Rip rap and other material may be used to prevent erosion

and failure of the structure.

7. New Bed Construction. Construction of a new cranberry bed outside of the boundary of an existing cranberry farm.

## 7) MAINTENANCE ACTIVITIES.

- a. Maintenance activities conducted in accordance with Section 2.5 (8) in the designated floodplain of an A Zone or an AE Zone will not cause an increase in the BFE.
- b. Maintenance activities do not require an FA-C permit.

## 8) REQUIREMENTS FOR MAINTENANCE ACTIVITIES IN FLOODED AGRICULTURE – CRANBERRY FARMS

- a. Maintenance activities must take place within the boundary of an existing cranberry farm and below the top of the existing perimeter dike.
- b. Maintenance of dikes or impoundments must be conducted such that the height of the existing dike or impoundment is maintained.
- c. No spoil materials may be placed such that the height of the top of the perimeter dike on an existing cranberry farm is increased above the established height of the perimeter dike. If spoils materials are placed outside of the existing farm perimeter dike but within the existing farm boundary, then they must be placed outside of the SFHA, must meet the cumulative impact requirement for an A Zone or must be in the non-floodway portion of an AE Zone.
- d. Maintenance activities include the following:
  1. New Bed Drainage within Boundary of Existing Cranberry Farm. Includes installation of drain tiles to improve water management; creation of perimeter ditches around the bed area (inside the impoundments) to direct water on and off the bed; and/or installation of water control structures on ends of beds to allow for flooding and drainage.
  2. Bed Drainage – Renovation within Boundary of Existing Cranberry Farm. Includes installation of drain tiles to improve water management; creation of perimeter ditches around the bed area (inside the impoundments) to direct water on and off the bed; and/or installation of water control structures on ends of beds to allow for flooding and drainage.
  3. New Bed Leveling within Boundary of Existing Cranberry Farm. Cranberry beds are leveled using heavy equipment and a laser level. Sand is deposited onto the bed surface as needed to achieve a level surface with a slight crown in the center such that water drains to the edges of the bed. Beds are entirely surrounded by dikes.
  4. Bed Leveling – Renovation within Boundary of Existing Cranberry Farm. Cranberry beds are leveled using heavy equipment and a laser level. Sand is deposited onto the bed surface as needed to achieve a level surface with a slight crown in the center such that water drains to the edges of the bed. Beds are entirely surrounded by dikes.
  5. New Bed Planting within Boundary of Existing Cranberry Farm. Vines are planted into the bed surface using plugs, mechanical planting equipment and/or vines spread on the ground and pushed into the surface with a modified disc. Beds are



entirely surrounded by dikes.

6. **Bed Planting – Renovation within Boundary of Existing Cranberry Farm.** Vines are planted into the bed surface using plugs, mechanical planting equipment and/or vines spread on the ground and pushed into the surface with a modified disc. Beds are entirely surrounded by dikes.
7. **New Bed Removal of Materials or Scalping within Boundary of Existing Cranberry Farm.** Existing plant material is removed. Plant material is loaded into trucks and removed.
8. **Bed Removal of Materials or Scalping – Renovation within Boundary of Existing Cranberry Farm.** Existing plant material is removed. Plant material is loaded into trucks and removed.
9. **New Bed Sanding within Boundary of Existing Cranberry Farm.** Sand is deposited onto the bed surface using heavy equipment to bring the planting surface to the desired level.
10. **Bed Sanding – Renovation within Boundary of Existing Cranberry Farm.** Sand is deposited onto the bed surface using heavy equipment to bring the planting surface to the desired level.
11. **Dike – Seeding.** Reservoirs and bed dikes are seeded to stabilize banks and prevent erosion. Most seeding is done with a hydro seeder after a suitable planting medium has been placed on the area to be seeded.
12. **New Dike or Impoundment within Boundary of Existing Cranberry Farm.** New construction of dikes and impoundments and placement of new water control structures *within* the established perimeter of an existing cranberry farm.
13. **Dike or Impoundment – Repair / Maintenance of Existing Structures.** Includes excavating adjacent to dikes to increase storage capacity and control of water flow, excavating sand from a reservoir to increase the water storage capacity, installation of splitter dikes to manage water flow and subdivide reservoirs, and replacement of existing water control structures.
14. **Ditch – Cleaning and Maintenance of Existing Ditches.** Drainage and irrigation ditches are cleaned using heavy equipment to remove plant material and debris. Spoils cannot be placed on the ditch side of any adjacent dike.
15. **New Ditch within Boundary of Existing Cranberry Farm.** New ditches are constructed using heavy machinery. Plant material and debris are removed.
16. **Farm Road – Maintenance of Existing Roads.** Farm roads are graded and repaired to maintain height, stability and width. Sand or gravel is placed in damaged areas. Culverts are replaced. Roads are mowed to prevent growth of brush or flowers that serve as competition for pollinators.
17. **New Farm Road within Boundary of Existing Cranberry Farm.** Farm roads are constructed using placement of materials as appropriate for the loads expected to be carried.
18. **Harvest – Flood.** Water is released from storage areas and gravity flowed or pumped into production (cranberry bed) areas. An initial “raking” flood of 6 to 12 inches is applied. After harvest machinery moves through the beds, the water level

is increased above the vine canopy to allow the fruit to be corralled and removed.

19. Irrigation – Flood. Water is released from the reservoir or pumped onto the beds to provide a flood for insect control or protection during severe weather. Water is then returned to the reservoir or other water body.

20. Irrigation System Maintenance and Renovation. Periodic repair of cranberry bed sprinkler systems includes nozzle replacement; mainline replacement with aluminum or plastic materials; burial of laterals; upgrades to pumping systems and construction of pumping stations within the perimeter of the most-external impoundment of the farm.

21. Reservoir Maintenance and Construction of Reservoirs within the Boundary of Existing Cranberry Farm. Reservoirs are periodically excavated to alter or maintain depth levels. Heavy equipment is used for excavation.

9) FA-C PERMITS. A FA-C permit shall be obtained before any development in the FA-C may be initiated. Application to the zoning administrator shall include:

**a. GENERAL INFORMATION.**

1. Name and address of the applicant, property owner and contractor;
2. Legal description of the proposed development area; and
3. Statement that the proposed use is cranberry farming.

**b. SITE DEVELOPMENT PLAN.** A site plan drawn to scale shall be submitted with the permit application form and shall contain:

1. Location, dimensions, area and elevation of the proposed development area;
2. Location of the ordinary high-water mark of any abutting navigable waterways;
3. Location of any structures with distances measured from the lot lines and street center lines; and
4. Location of SFHA floodplain and floodway limits as determined from the official floodplain zoning maps.

**c. A ZONE APPLICATION.** An application for FA-C development activity in an A zone shall include a certificate of no-rise, or a technical analysis sufficient to show that the proposed development will not cause a cumulative impact on the base flood elevation (BFE) of more than 1.0 (one) foot within the regulatory floodplain of a particular reach on the waterway.

**d. AE ZONE APPLICATION.** An application for FA-C development activity in an AE zone shall include submission of a certificate of no-rise. If the analysis shows the project will cause an increase greater than 0.00 feet in the BFE, then the project sponsor shall provide the community with information necessary for the community to evaluate the proposed project.

### **3.0 FLOODWAY DISTRICT (FW)**

### **3.1 APPLICABILITY**

This section applies to all floodway areas on the floodplain zoning maps and those identified pursuant to s. 5.1(5).

### **3.2 PERMITTED USES**

The following open space uses are allowed in the Floodway District and the floodway areas of the General Floodplain District, if:

- they are not prohibited by any other ordinance;
  - they meet the standards in s. 3.3 and 3.4; and
  - all permits or certificates have been issued according to s. 7.1.
- 1) Agricultural uses, such as: farming, outdoor plant nurseries, horticulture, viticulture, and wild crop harvesting.
  - 2) Nonstructural industrial and commercial uses, such as loading areas, parking areas and airport landing strips.
  - 3) Nonstructural recreational uses, such as golf courses, tennis courts, archery ranges, picnic grounds, boat ramps, swimming areas, parks, wildlife and nature preserves, game farms, fish hatcheries, shooting, trap, and skeet activities, hunting and fishing areas and hiking and horseback riding trails, subject to the fill limitations of s. 3.3(4).
  - 4) Uses or structures accessory to open space uses or classified as historic structures that comply with s. 3.3 and 3.4.
  - 5) Extraction of sand, gravel or other materials that comply with s. 3.3(4).
  - 6) Functionally water-dependent uses, such as docks, piers or wharves, dams, flowage areas, culverts, navigational aids and river crossings of transmission lines, and pipelines that comply with chs. 30 and 31, Stats.
  - 7) Public utilities, streets and bridges that comply with s. 3.3(3).
  - 8) Portable latrines that are removed prior to flooding and systems associated with recreational areas and Department-approved campgrounds that meet the applicable provisions of local ordinances and Ch. SPS 383, Wis. Adm. Code.
  - 9) Public or private wells used to obtain potable water for recreational areas that meet the requirements of local ordinances and chs. NR 811 and NR 812, Wis. Adm. Code.
  - 10) Wastewater treatment ponds or facilities permitted under s. NR 110.15(3)(b), Wis. Adm. Code.
  - 11) Sanitary sewer or water supply lines to service existing or proposed development located outside the floodway that complies with the regulations for the floodplain area occupied.

### **3.3 STANDARDS FOR DEVELOPMENT IN THE FLOODWAY**

#### **1) GENERAL**

- a. Any development in the floodway shall comply with s. 2.0 and have a low flood damage potential.
- b. Applicants shall provide an analysis calculating the effects of this proposal on the regional flood height to determine the effects of the proposal according to s. 2.1 and 7.1(2)(c). The analysis must be completed by a registered professional engineer in the state of Wisconsin.

- c. Any encroachment in the regulatory floodway is prohibited unless the data submitted for subd. 3.3(1)(b) above demonstrates that the encroachment will cause no increase in flood elevations in flood events up to the base flood at any location or removes the encroached area from the regulatory floodway as provided in s. 1.5(5).

## 2) STRUCTURES

Structures accessory to permanent open space uses, including utility and sanitary facilities, or functionally dependent on a waterfront location may be allowed by permit if the structures comply with the following criteria:

- a. Not designed for human habitation, does not have a high flood damage potential and is constructed to minimize flood damage;
- b. Shall either have the lowest floor elevated to or above the flood protection elevation or shall meet all the following standards:
  - 1. Have the lowest floor elevated to or above the regional flood elevation and be dry floodproofed so that the structure is watertight with walls substantially impermeable to the passage of water and completely dry to the flood protection elevation without human intervention during flooding;
  - 2. Have structural components capable of meeting all provisions of Section 3.3(2)(g) and;
  - 3. Be certified by a registered professional engineer or architect, through the use of a Federal Emergency Management Agency Floodproofing Certificate, that the design and methods of construction are in accordance with Section 3.3(2)(g).
- c. Must be anchored to resist flotation, collapse, and lateral movement;
- d. Mechanical and utility equipment must be elevated to or above the flood protection elevation; and
- e. Must not obstruct flow of flood waters or cause any increase in flood levels during the occurrence of the regional flood.
- f. For a structure designed to allow the automatic entry of floodwaters below the Regional Flood Elevation, the applicant shall submit a plan that meets s. 3.3(2)(a) through 3.3(2)(e) and meets or exceeds the following standards:
  - 1. The lowest floor must be elevated to or above the regional flood elevation;
  - 2. a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
  - 3. the bottom of all openings shall be no higher than one foot above the lowest adjacent grade; openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters, otherwise must remain open.
  - 4. The use must be limited to parking, building access or limited storage.
- g. Certification: Whenever floodproofing measures are required, a registered professional engineer or architect shall certify that the following floodproofing measures will be

utilized, where appropriate, and are adequate to withstand the flood depths, pressures, velocities, impact and uplift forces and other factors associated with the regional flood:

1. Reinforcement of floors and walls to resist rupture, collapse, or lateral movement caused by water pressures or debris buildup;
2. Construction of wells, water supply systems and waste treatment systems so as to prevent the entrance of flood waters in such systems and must be in accordance with provisions in Sections 3.4(4) and 3.4(5);
3. Subsurface drainage systems to relieve external pressures on foundation walls and basement floors;
4. Cutoff valves on sewer lines or the elimination of gravity flow basement drains; and
5. Placement of utilities to or above the flood protection elevation.

3) PUBLIC UTILITIES, STREETS AND BRIDGES

Public utilities, streets and bridges may be allowed by permit, if:

- a. Adequate floodproofing measures are provided to the flood protection elevation; and
- b. Construction meets the development standards of s. 2.1.

4) FILLS OR DEPOSITION OF MATERIALS

Fills or deposition of materials may be allowed by permit, if:

- a. The requirements of s. 2.1 are met;
- b. No material is deposited in navigable waters unless a permit is issued by the Department pursuant to ch. 30, Stats., and a permit pursuant to s. 404 of the Federal Water Pollution Control Act, Amendments of 1972, 33 U.S.C. 1344 has been issued, if applicable, and all other requirements have been met;
- c. The fill or other materials will be protected against erosion by riprap, vegetative cover, sheet piling or bulkheading; and
- d. The fill is not classified as a solid or hazardous material.

**3.4 PROHIBITED USES**

All uses not listed as permitted uses in s. 3.2 are prohibited, including the following uses:

- 1) Habitable structures, structures with high flood damage potential, or those not associated with permanent open-space uses;
- 2) Storing materials that are buoyant, flammable, explosive, injurious to property, water quality, or human, animal, plant, fish or other aquatic life;
- 3) Uses not in harmony with or detrimental to uses permitted in the adjoining districts;
- 4) Any private or public sewage systems, except portable latrines that are removed prior to flooding and systems associated with recreational areas and Department-approved campgrounds that meet the applicable provisions of local ordinances and ch. SPS 383, Wis. Adm. Code;
- 5) Any public or private wells which are used to obtain potable water, except those for recreational areas that meet the requirements of local ordinances and chs. NR 811 and NR 812, Wis. Adm.

Code;

- 6) Any solid or hazardous waste disposal sites;
- 7) Any wastewater treatment ponds or facilities, except those permitted under s. NR 110.15(3)(b), Wis. Adm. Code; and
- 8) Any sanitary sewer or water supply lines, except those to service existing or proposed development located outside the floodway which complies with the regulations for the floodplain area occupied.

#### **4.0 FLOODFRINGE DISTRICT (FF)**

##### **4.1 APPLICABILITY**

This section applies to all floodfringe areas shown on the floodplain zoning maps and those identified pursuant to s. 5.1(5).

##### **4.2 PERMITTED USES**

Any structure, land use, or development is allowed in the Floodfringe District if the standards in s. 4.3 are met, the use is not prohibited by this, or any other ordinance or regulation and all permits or certificates specified in s. 7.1 have been issued.

##### **4.3 STANDARDS FOR DEVELOPMENT IN THE FLOODFRINGE**

Section 2.0 shall apply in addition to the following requirements according to the use requested. Any existing structure in the floodfringe must meet the requirements of s. 6.0 *Nonconforming Uses*;

###### **(1) RESIDENTIAL USES**

Any structure, including a manufactured home, which is to be newly constructed or moved into the floodfringe, shall meet or exceed the following standards;

- a) All new construction, including placement of manufactured homes, and substantial improvement of residential structures, shall have the lowest floor elevated to or above the flood protection elevation on fill. The fill around the structure shall be one foot or more above the regional flood elevation extending at least 15 feet beyond the limits of the structure. No area may be removed from the floodfringe district unless it can be shown to meet s. 1.5(5).
- b) Notwithstanding s. 4.3 (1)(a), a basement or crawlspace floor may be placed at the regional flood elevation if the basement or crawlspace is designed to make **all** portions of the structure below the flood protection elevation 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. No floor of any kind is allowed below the regional flood elevation;
- c) Contiguous dryland access shall be provided from a structure to land outside of the floodplain, except as provided in subd. (d).
- d) In developments where existing street or sewer line elevations make compliance with subd. (c) impractical, the municipality may permit new development and substantial improvements where roads are below the regional flood elevation, if:

1. The municipality has written assurance from police, fire and emergency services that rescue, and relief will be provided to the structure(s) by wheeled vehicles during a regional flood event; or
2. The municipality has a DNR-approved emergency evacuation plan that follows acceptable hazard mitigation planning guidelines.

(2) ACCESSORY STRUCTURES OR USES

In addition to s. 2.0, new construction and substantial improvements of Accessory structures shall be constructed on fill with the lowest floor at or above the regional flood elevation.

(3) COMMERCIAL USES

In addition to s. 2.0, any commercial structure which is erected, altered, or moved into the floodfringe shall meet the requirements of s. 4.3(1). Subject to the requirements of s. 4.3(5), storage yards, surface parking lots and other such uses may be placed at lower elevations if an adequate warning system exists to protect life and property.

(4) MANUFACTURING AND INDUSTRIAL USES

In addition to s. 2.0, any manufacturing or industrial structure which is erected, altered, or moved into the floodfringe shall have the lowest floor elevated to or above the flood protection elevation or meet the floodproofing standards in s 7.5. Subject to the requirements of s. 4.3(5), storage yards, surface parking lots and other such uses may be placed at lower elevations if an adequate warning system exists to protect life and property.

(5) STORAGE OF MATERIALS

Materials that are buoyant, flammable, explosive, or injurious to property, water quality or human, animal, plant, fish, or aquatic life shall be stored at or above the flood protection elevation or floodproofed in compliance with s. 7.5. Adequate measures shall be taken to ensure that such materials will not enter the water body during flooding.

(6) PUBLIC UTILITIES, STREETS AND BRIDGES

All utilities, streets and bridges shall be designed to be compatible with comprehensive floodplain development plans; and

- a) When failure of public utilities, streets and bridges would endanger public health or safety, or where such facilities are deemed essential, construction or repair of such facilities shall only be permitted if they are designed to comply with s. 7.5.
- b) Minor roads or non-essential utilities may be constructed at lower elevations if they are designed to withstand flood forces to the regional flood elevation.

(7) SEWAGE SYSTEMS

All sewage disposal systems shall be designed to minimize or eliminate infiltration of flood water into the system, pursuant to s. 7.5(3), to the flood protection elevation and meet the provisions of all local ordinances and ch. SPS 383, Wis. Adm. Code.

(8) WELLS

All wells shall be designed to minimize or eliminate infiltration of flood waters into the system, pursuant to s. 7.5(3), to the flood protection elevation and shall meet the provisions of chs. NR 811 and NR 812, Wis. Adm. Code.

(9) SOLID WASTE DISPOSAL SITES

Disposal of solid or hazardous waste is prohibited in floodfringe areas.

(10) DEPOSITION OF MATERIALS

Any deposited material must meet all the provisions of this ordinance.

(11) MANUFACTURED HOMES

- a) Owners or operators of all manufactured home parks and subdivisions shall provide adequate surface drainage to minimize flood damage, and prepare, secure approval, and file an evacuation plan, indicating vehicular access and escape routes, with local emergency management authorities.
- b) In existing manufactured home parks, all new homes, replacement homes on existing pads, and substantially improved homes shall:
  1. have the lowest floor elevated to the flood protection elevation; and
  2. be anchored so they do not float, collapse, or move laterally during a flood;
- c) Outside of existing manufactured home parks, including new manufactured home parks and all single units outside of existing parks, all new, replacement and substantially improved manufactured homes shall meet the residential development standards for the floodfringe in s. 4.3(1).

(12) MOBILE RECREATIONAL VEHICLES

All mobile recreational vehicles must be on site for less than 180 consecutive days and be either:

- a) fully licensed and ready for highway use; or
- b) shall meet the elevation and anchoring requirements in s. 4.3 (11)(b) and (c).

A mobile 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 utilities and security devices and has no permanently attached additions.

## **5.0 OTHER FLOODPLAIN DISTRICTS**

### **5.1 GENERAL FLOODPLAIN DISTRICT (GFP)**

1) APPLICABILITY

The provisions for the General Floodplain District shall apply to development in all floodplains mapped as A, AO, AH, and in AE zones within which a floodway is not delineated on the Flood Insurance Rate Maps identified in s. 1.5(2)(a).



2) FLOODWAY BOUNDARIES

For proposed development in zone A, or in zone AE within which a floodway is not delineated on the Flood Insurance Rate Map identified in s. 1.5(2)(a), the boundaries of the regulatory floodway shall be determined pursuant to s. 5.1(5). If the development is proposed to encroach upon the regulatory floodway, the development is subject to the standards of s. 3.0. If the development is located entirely within the floodfringe, the development is subject to the standards of s. 4.0.

3) PERMITTED USES

Pursuant to s. 5.1(5) it shall be determined whether the proposed use is located within the floodway or floodfringe. Those uses permitted in the Floodway (s. 3.2) and Floodfringe (s. 4.2) Districts are allowed within the General Floodplain District, according to the standards of s. 5.1(4) provided that all permits or certificates required under s. 7.1 have been issued.

4) STANDARDS FOR DEVELOPMENT IN THE GENERAL FLOODPLAIN DISTRICT

Section 3.0 applies to floodway areas, determined to pursuant to 5.1(5); Section 4.0 applies to floodfringe areas, determined to pursuant to 5.1(5).

- a) New construction and substantial improvement of structures in zone AO shall have the lowest floor, including basement, elevated:
  - 1. To or above the depth, in feet, as shown on the FIRM above the highest adjacent natural grade, or
  - 2. If the depth is not specified on the FIRM, two feet (2) above the highest adjacent natural grade or higher.
- b) New Construction and substantial improvement of structures in zone AH shall have the lowest floor, including basement, elevated to or above the flood protection elevation.
- c) In AO/AH zones, provide adequate drainage paths to guide floodwaters around structures.
- d) All development in zones AO and zone AH shall meet the requirements of s. 4.0 applicable to flood fringe areas.

5) DETERMINING FLOODWAY AND FLOODFRINGE LIMITS

Upon receiving an application for development within zone A, or within zone AE where a floodway has not been delineated on the Flood Insurance Rate Maps, the zoning administrator shall:

- a) Require the applicant to submit two copies of an aerial photograph or a plan which shows the proposed development with respect to the general floodplain district limits, stream channel, and existing floodplain developments, along with a legal description of the property, fill limits and elevations, building floor elevations and flood proofing measures and the flood zone as shown on the FIRM.
- b) Require the applicant to furnish any of the following information deemed necessary by the Department to evaluate the effects of the proposal upon flood height and flood flows, regional flood elevation and to determine floodway boundaries.
  - 1. A Hydrologic and Hydraulic Study as specified in s. 7.1(2)(c).
  - 2. Plan (surface view) showing elevations or contours of the ground; pertinent structure, fill or storage elevations; size, location, and layout of all proposed and existing

structures on the site; location and elevations of streets, water supply, and sanitary facilities; soil types and other pertinent information.

3. Specifications for building construction and materials, floodproofing, filling, dredging, channel improvement, storage, water supply and sanitary facilities.

## **5.2 FLOOD STORAGE DISTRICT (WHEN APPLICABLE) (PLACE HOLDER, This community does not have flood storage at this time)**

If the community does NOT have flood storage, but DOES have coastal language,

- delete the language below, but keep the 5.2 flood storage header (above) to retain the numbering integrity throughout the document.

If the community does not have flood storage AND does not have Coastal language

- This entire section, including the header, can be removed

The flood storage district delineates that portion of the floodplain where storage of floodwaters has been taken into account and is relied upon to reduce the regional flood discharge. The district protects the flood storage areas and assures that any development in the storage areas will not decrease the effective flood storage capacity which would cause higher flood elevations.

### (1) **APPLICABILITY**

The provisions of this section apply to all areas within the Flood Storage District (FSD), as shown on the official floodplain zoning maps.

### (2) **PERMITTED USES**

Any use or development which occurs in a flood storage district must meet the applicable requirements in s. 4.3.

### (3) **STANDARDS FOR DEVELOPMENT IN FLOOD STORAGE DISTRICTS**

- a. Development in a flood storage district shall not cause an increase equal or greater than 0.00 of a foot in the height of the regional flood.
- b. No development shall be allowed which removes flood storage volume unless an equal volume of storage as defined by the pre-development ground surface and the regional flood elevation shall be provided in the immediate area of the proposed development to compensate for the volume of storage, which is lost, (compensatory storage). Excavation below the groundwater table is not considered to provide an equal volume of storage.
- c. If compensatory storage cannot be provided, the area may not be developed unless the entire area zoned as flood storage district – on this waterway – is rezoned to the floodfringe district. This must include a revision to the floodplain study and map done for the waterway to revert to the higher regional flood discharge calculated without floodplain storage, as per s. 8.0 *Amendments* of this ordinance.
- d. No area may be removed from the flood storage district unless it can be shown that the area has been filled to the flood protection elevation and is contiguous to other lands lying outside of the floodplain.

## **5.3 COASTAL FLOODPLAIN DISTRICT (CFD) (WHEN APPLICABLE)**

[This entire section can be removed if community is not in a coastal floodplain district]

### (1) **APPLICABILITY**

The provisions of this section apply to all Coastal Floodplain Districts (CFD) shown on the floodplain zoning maps, which includes zones V, V1-30, and VE. Where a floodway shown on the floodplain zoning maps, or a floodway determined as explained in s. 1.5(3)(d) or a regulatory floodway identified pursuant to s. 5.1(5), extends into a Coastal Floodplain District, development shall comply with the standards of s. 3.0 and s. 5.3.

## (2) STANDARDS FOR DEVELOPMENT IN THE COASTAL FLOODPLAIN DISTRICT

Development in the CFD district shall meet the requirements of s. 2.0, as well as the following:

- a. New construction shall be located landward of the Ordinary High-Water Mark.
- b. Bulkheads, seawalls, revetments, and other erosion control measures shall not be connected to the foundation or superstructure of a building and shall be designed and constructed so as not to direct floodwaters or increase flood forces or erosion impacts on the foundation or superstructure of any building.
- c. Man-made alterations of sand dunes are prohibited unless an engineering report documents that the alterations will not increase potential flood damage by reducing the wave and flow dissipation characteristics of the sand dunes.
- d. The use of fill for structural support of buildings is prohibited.
  1. Non-structural fill shall be permitted only if an engineering report demonstrates that the fill will not cause runoff, ramping, or deflection of floodwaters that cause damage to buildings.
- e. New construction and substantial improvement of buildings shall be elevated, consistent with SPS 321.34, on pilings or columns so that the bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to or above the FPE.
  1. The pile or column foundation and structure attached thereto shall be anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Water loading values shall be those associated with the base flood. Wind loading values shall be those defined according to American Society of Civil Engineers 7-16 *Minimum design loads and associated criteria for buildings and other structures*, or other equivalent standard.
  2. A registered professional engineer or architect shall develop or review the structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of s. 5.3(2)(e).
- f. New construction and substantial improvement of buildings shall have the space below the lowest floor either free of obstruction or constructed with non-

supporting breakaway walls, open wood latticework, or insect screening intended to collapse without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system.

1. For the purpose of s. 5.3(2)(f), a breakaway wall shall have a design safe loading resistance of not less than 10 and not more than 20 pounds per square foot.

2. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or where so required by local or state codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet all of the following conditions:

a) Breakaway wall collapse shall result from a water load less than that which would occur during the base flood; and

b) The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). Water loading values shall be those associated with the base flood. Wind loading values shall be those defined according to American Society of Civil Engineers 7-16 *Minimum design loads and associated criteria for buildings and other structures*, or equivalent standard.

3. All space enclosed by breakaway walls, open wood latticework, or insect screening below the lowest floor shall be used solely for parking, building access, or storage.

g. Require within flood-prone areas:

1. New and replacement water supply systems to be designed to minimize or eliminate infiltration of flood waters into the systems; and

2. New and replacement sanitary sewage systems to be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters and onsite waste disposal systems to be located to avoid impairment to them or contamination from them during flooding.

h. All mobile recreation vehicles must be on site for less than 180 consecutive days and be either:

1. fully licensed and ready for highway use; or

2. shall meet the standards of ss. 5.3(2)(a) through 5.3(2)(g) inclusive.

A mobile recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect type utilities and security devices and has no permanently attached additions.

- i. Manufactured homes placed or substantially improved within the Coastal Floodplain District shall meet the standards of ss. 5.3(2)(a) through 5.3(2)(g) inclusive.

## **6.0 NONCONFORMING USES**

### **6.1 GENERAL**

#### 1) Applicability

- a) The standards in this section shall apply to all uses and buildings that do not conform to the provisions contained within a floodplain zoning ordinance or with s. 87.30, Stats. and §§ NR 116.12-14, Wis. Adm. Code and 44 CFR 59-72., these standards shall apply to all modifications or additions to any nonconforming use or structure and to the use of any structure or premises which was lawful before the passage of this ordinance or any amendment thereto. A party asserting existence of a lawfully established nonconforming use or structure has the burden of proving that the use or structure was compliant with the floodplain zoning ordinance in effect at the time the use or structure was created.
  - b) As permit applications are received for additions, modifications, or substantial improvements to nonconforming buildings in the floodplain, municipalities shall develop a list of those nonconforming buildings, their present equalized assessed value, and a list of the costs of those activities associated with changes to those buildings.
- 2) The existing lawful use of a structure or its accessory use which is not in conformity with the provisions of this ordinance may continue subject to the following conditions:
- a) No modifications or additions to a nonconforming use or structure shall be permitted unless they comply with this ordinance. The words "modification" and "addition" include, but are not limited to, any alteration, addition, modification, structural repair, rebuilding or replacement of any such existing use, structure or accessory structure or use. Maintenance is not considered a modification; this includes painting, decorating, paneling and other nonstructural components and the maintenance, repair or replacement of existing private sewage or water supply systems or connections to public utilities. Any costs associated with the repair of a damaged structure are not considered maintenance.

The construction of a deck that does not exceed 200 square feet and that is adjacent to the exterior wall of a principal structure is not an extension, modification, or addition. The roof of the structure may extend over a portion of the deck in order to provide safe ingress and egress to the principal structure.

- b) If a nonconforming use or the use of a nonconforming structure is discontinued for 12 consecutive months, it is no longer permitted and any future use of the property, and any structure or building thereon, shall conform to the applicable requirements of this ordinance;
- c) The municipality shall keep a record which lists all nonconforming uses and nonconforming structures, their present equalized assessed value, the cost of all modifications or additions which have been permitted, and the percentage of the structure's total current value those modifications represent;

- d) No modification or addition to any nonconforming structure or any structure with a nonconforming use, which over the life of the structure would equal or exceed 50% of its present equalized assessed value, shall be allowed unless the entire structure is permanently changed to a conforming structure with a conforming use in compliance with the applicable requirements of this ordinance. Contiguous dry land access must be provided for residential and commercial uses in compliance with s. 4.3(1). The costs of elevating the lowest floor of a nonconforming building or a building with a nonconforming use to the flood protection elevation are excluded from the 50% provisions of this paragraph;
- e) No maintenance on a per event basis to any nonconforming structure or any structure with a nonconforming use, the cost of which would equal or exceed 50% of its present equalized assessed value, shall be allowed unless the entire structure is permanently changed to a conforming structure with a conforming use in compliance with the applicable requirements of this ordinance. Contiguous dry land access must be provided for residential and commercial uses in compliance with s. 4.3(1). Maintenance to any nonconforming structure, which does not exceed 50% of its present equalized assessed value on a per event basis, does not count against the cumulative calculations over the life of the structure for substantial improvement calculations.
- f) If on a per event basis the total value of the work being done under (d) and (e) equals or exceeds 50% of the present equalized assessed value, the work shall not be permitted unless the entire structure is permanently changed to a conforming structure with a conforming use in compliance with the applicable requirements of this ordinance. Contiguous dry land access must be provided for residential and commercial uses in compliance with s. 4.3(1).
- g) Except as provided in subd. (h), if any nonconforming structure or any structure with a nonconforming use is destroyed or is substantially damaged, it cannot be replaced, reconstructed, or rebuilt unless the use and the structure meet the current ordinance requirements. A structure is considered substantially damaged if the total cost to restore the structure to its pre-damaged condition equals or exceeds 50% of the structure's present equalized assessed value.
- h) For nonconforming buildings that are substantially damaged or destroyed by a nonflood disaster, the repair or reconstruction of any such nonconforming building shall be permitted in order to restore it to the size and use in effect prior to the damage event, provided that the following minimum requirements are met, and all required permits have been granted prior to the start of construction:

#### 1. Residential Structures

- a. Shall have the lowest floor, including basement, elevated to ~~or above~~ above the base flood elevation using fill, pilings, columns, posts, or perimeter walls. Perimeter walls must meet the requirements of s. 7.5(2).
- b. Shall be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, and shall be constructed with methods and materials resistant to flood damage.
- c. Shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or elevated so as to prevent water from entering or accumulating within the components during conditions of flooding.

- d. In A Zones, obtain, review, and utilize any flood data available from a federal, state or other source.
- e. In AO Zones with no elevations specified, shall have the lowest floor, including basement, meet the standards in s. 5.1(4).
- f. in AO Zones, shall have adequate drainage paths around structures on slopes to guide floodwaters around and away from the structure.

## 2. Nonresidential Structures

- a. Shall meet the requirements of s. 6.1(2)(h)1a-f.
  - b. Shall either have the lowest floor, including basement, elevated to or above the regional flood elevation; or, together with attendant utility and sanitary facilities, shall meet the standards in s. 7.5 (1) or (2).
  - c. In AO Zones with no elevations specified, shall have the lowest floor, including basement, meet the standards in s. 5.1(4).
- 3) A nonconforming historic structure may be altered if the alteration will not preclude the structure's continued designation as a historic structure, the alteration will comply with s. 3.3 (1), flood resistant materials are used, and construction practices and floodproofing methods that comply with s. 7.5 are used. Repair or rehabilitation of historic structures shall be exempt from the development standards of s. 6.1 (2)(h)1 if it is determined that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and is the minimum necessary to preserve the historic character and design of the structure.
- 4) Notwithstanding anything in this chapter to the contrary, modifications, additions, maintenance, and repairs to a nonconforming building shall not be prohibited based on cost and the building's nonconforming use shall be permitted to continue if:
- a) Any living quarters in the nonconforming building are elevated to be at or above the flood protection elevation;
  - b) The lowest floor of the nonconforming building, including the basement, is elevated to or above the regional flood elevation;
  - c) The nonconforming building is permanently changed to conform to the applicable requirements of 2.0;
  - d) If the nonconforming building is in the floodway, the building is permanently changed to conform to the applicable requirements of 3.3(1), 3.3(2)(b) through (e), 3.3(3), 3.3(4), and 6.2. Any development that adds additional fill or creates an encroachment in the floodplain from beyond the original nonconforming structure's 3-D building envelope must determine the floodway in accordance with section 5.1(5). If the encroachment is in the floodway, it must meet the standards in section 3.3(4);
  - e) If the nonconforming building is in the floodfringe, the building is permanently changed to conform to the applicable requirements of 4.3 and 6.3;
  - f) Repair or reconstruction of nonconforming structures and substantial improvements of residential buildings in zones A1-30, AE, and AH must have the lowest floor (including basement) elevated to or above the base flood elevation;

- g) Repair or reconstruction of nonconforming structures and substantial improvements of non-residential buildings in zones A1-30, AE, and AH must have the lowest floor (including basement) elevated to or above the base flood elevation, or (together with attendant utility and sanitary facilities) be designed so that below the base flood elevation the building is watertight with walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy:
- i. Where a non-residential structure is intended to be made watertight below the base flood elevation, a registered professional engineer or architect must develop and/or review structural design, specifications, and plans for the construction, and must certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of s. 6.1(4)(g) above.
  - ii. The community must maintain a record of such certification including the specific elevation to which each such structure is floodproofed;
- h) Fully enclosed areas below the lowest floor of repair or reconstruction of nonconforming structures and substantial improvements in zones A1-30, AE, and AH that are usable solely for parking of vehicles, building access, or storage, must be designed to adequately equalize hydrostatic forces on exterior walls by allowing for the entry and exit of floodwaters. Subsequent improvements to repaired or reconstructed nonconforming structures must not increase the degree of their nonconformity. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or meet the following criteria:
- i. A minimum of two openings into each enclosed area must be located below the base flood elevation and provide a total net area of not less than one square inch for every square foot of enclosed area.
  - ii. The bottom of all openings must be no higher than one foot above the adjacent grade.
  - iii. Openings may be equipped with screens, louvers, valves, or other coverings if they permit the automatic entry and exit of floodwaters;
- i) Manufactured homes that are placed or substantially improved within zones A1-30, AE, and AH outside of 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 flood, must be elevated on a permanent foundation such that the lowest floor of the manufactured home is at or above the base flood elevation, and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement;
- j) Manufactured homes that are placed or substantially improved within zones A1-30, AE, and AH on existing sites in an existing manufactured home park that is not undergoing expansion and on which a manufactured home has not incurred substantial damage as a result of flood must be elevated so that either the lowest floor of the manufactured home is at or above the base flood elevation, or the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength 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;
- k) Recreational vehicles placed on sites within zones A1-30, AH, and AE must either:



- i. Be on site for fewer than 180 consecutive days; or
  - ii. Be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions); or
  - iii. Meet the elevation and anchoring requirements for manufactured homes in s. 6.1(4)(i) above;
- l) In a regulatory floodway that has been delineated on the FIRM in zone A1-30 or AE, encroachments, including repair or reconstruction of nonconforming structures, substantial improvement, or other development (including fill) must be prohibited unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment will not result in any increase in flood levels within the community during the occurrence of the base flood discharge. Subsequent improvements to repaired or reconstructed nonconforming structures must not increase the degree of their nonconformity;
- m) In zone A, the community must obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other source as criteria for requiring repair or reconstruction of nonconforming structures, substantial improvement, and other development to meet ss. 6.1(4)(f) through (l) (inclusive) above. Any development that adds additional fill or creates an encroachment in the floodplain from beyond the original nonconforming structure's 3-D building envelope must determine the floodway in accordance with section 5.1(5). If the encroachment is in the floodway, it must meet the standards in section 3.3(4). Subsequent improvements to repair or reconstructed nonconforming structures must not increase the degree of their nonconformity;
- n) In zones A1-30 or AE where a regulatory floodway has not been delineated on the FIRM, repair or reconstruction of nonconforming structures, substantial improvement, or any development that adds additional fill or creates an encroachment in the floodplain from beyond the original nonconforming structure's 3-D building envelope must determine the floodway in accordance with section 5.1(5). If the encroachment is in the floodway, it must meet the standards in section 3.3(4). Subsequent improvements to repair or reconstructed nonconforming structures must not increase the degree of their nonconformity;
- o) In zone AO, repair or reconstruction of nonconforming structures and substantial improvements of residential structures must have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the FIRM (at least two feet if no depth number is specified). Subsequent improvements to repair or reconstructed nonconforming structures must not increase the degree of their nonconformity; or
- p) In zone AO, repair or reconstruction of nonconforming structures and substantial improvements of nonresidential structures must have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the FIRM (at least two feet if no depth number is specified), or (together with attendant utility and sanitary facilities) be structurally dry-floodproofed to that level according to the standard specified in s. 6.1(4)(g) above. Subsequent improvements to repair or reconstructed nonconforming structures must not increase the degree of their nonconformity.

## **6.2 FLOODWAY DISTRICT**

- 1) No modification or addition shall be allowed to any nonconforming structure or any structure with a nonconforming use in the Floodway District, unless such modification or addition:
  - a) Has been granted a permit or variance which meets all ordinance requirements;
  - b) Meets the requirements of s. 6.1;
  - c) Shall not increase the obstruction to flood flows or regional flood height;
  - d) Any addition to the existing structure shall be floodproofed, pursuant to s. 7.5, by means other than the use of fill, to the flood protection elevation; and,
  - e) If any part of the foundation below the flood protection elevation is enclosed, the following standards shall apply:
    1. The enclosed area shall be designed by a registered architect or engineer to allow for the efficient entry and exit of flood waters without human intervention. A minimum of two openings must be provided with a minimum net area of at least one square inch for every one square foot of the enclosed area. The lowest part of the opening can be no more than 12 inches above the adjacent grade;
    2. The parts of the foundation located below the flood protection elevation must be constructed of flood-resistant materials;
    3. Mechanical and utility equipment must be elevated or floodproofed to or above the flood protection elevation; and
    4. The use must be limited to parking, building access or limited storage.
- 2) No new on-site sewage disposal system, or addition to an existing on-site sewage disposal system, except where an addition has been ordered by a government agency to correct a hazard to public health, shall be allowed in the Floodway District. Any replacement, repair or maintenance of an existing on-site sewage disposal system in a floodway area shall meet the applicable requirements of all municipal ordinances, s. 7.5(3) and Ch. SPS 383, Wis. Adm. Code.
- 3) No new well or modification to an existing well used to obtain potable water shall be allowed in the Floodway District. Any replacement, repair, or maintenance of an existing well in the Floodway District shall meet the applicable requirements of all municipal ordinances, s. 7.5(3) and chs. NR 811 and NR 812, Wis. Adm. Code.

## **6.3 FLOODFRINGE DISTRICT**

- 1) No modification or addition shall be allowed to any nonconforming structure or any structure with a nonconforming use unless such modification or addition has been granted a permit or variance by the municipality and meets the requirements of s. 4.3 except where s. 6.3(2) is applicable.
- 2) Where compliance with the provisions of subd. (1) would result in unnecessary hardship and only where the structure will not be used for human habitation or be associated with a high flood damage potential, the Board of **Adjustment/Appeals**, using the procedures established in s. 7.3, may grant a variance from those provisions of subd. (1) for modifications or additions using the criteria listed below. Modifications or additions which are protected to elevations lower than the flood protection elevation may be permitted if:
  - a) No floor is allowed below **the** regional flood elevation for residential or commercial structures;

- b) Human lives are not endangered;
  - c) Public facilities, such as water or sewer, shall not be installed;
  - d) Flood depths shall not exceed two feet;
  - e) Flood velocities shall not exceed two feet per second; and
  - f) The structure shall not be used for storage of materials as described in s. 4.3(5).
- 3) All new private sewage disposal systems, or addition to, replacement, repair or maintenance of a private sewage disposal system shall meet all the applicable provisions of all local ordinances, s. 7.5 (3) and ch. SPS 383, Wis. Adm. Code.
  - 4) All new wells, or addition to, replacement, repair, or maintenance of a well shall meet the applicable provisions of this ordinance, s. 7.5 (3) and ch. NR 811 and NR 812, Wis. Adm. Code.

#### **6.4 FLOOD STORAGE DISTRICTS (RESERVED - WHEN APPLICABLE)**

No modifications or additions shall be allowed to any nonconforming structure in a flood storage area unless the standards outlined in 5.2(3) are met.

#### **6.5 COASTAL FLOODPLAIN DISTRICT (CFD) (RESERVED - WHEN APPLICABLE)**

- 1) New construction and substantial improvement shall meet the standards of s. 5.3.
- 2) No structural repairs, modifications or additions to an existing building, the cost of which exceeds, over the life of the existing building, 50% of its present equalized assessed value, may be allowed in a coastal floodplain area unless the entire building is permanently changed to conform with the standards prescribed in s. 5.3.

### **7.0 ADMINISTRATION**

Where a zoning administrator, planning agency or a board of adjustment/appeals [counties have a board of adjustment, cities/villages have a board of appeals] has already been appointed to administer a zoning ordinance adopted under ss. 59.69, 59.692 or 62.23(7), Stats., these officials shall also administer this ordinance.

#### **7.1 ZONING ADMINISTRATOR**

##### **1) DUTIES AND POWERS**

The zoning administrator is authorized to administer this ordinance and shall have the following duties and powers:

- a) Advise applicants of the ordinance provisions, assist in preparing permit applications and appeals, and assure that the regional flood elevation for the proposed development is shown on all permit applications.
- b) Issue permits and inspect properties for compliance with provisions of this ordinance and issue certificates of compliance where appropriate
- c) Inspect and assess all damaged floodplain structures to determine if substantial damage to the structures has occurred.

- d) Keep records of all official actions such as:
  - 1. All permits issued, inspections made, and work approved;
  - 2. Documentation of certified lowest floor and regional flood elevations;
  - 3. Floodproofing certificates.
  - 4. Water surface profiles, floodplain zoning maps and ordinances, nonconforming uses and structures including changes, appeals, variances and amendments.
  - 5. All substantial damage assessment reports for floodplain structures.
  - 6. List of nonconforming structures and uses.
  - 7. In the Coastal Floodplain District, documentation of the certified elevation of the bottom of the lowest horizontal structural member of new construction and substantial improvements.
  - 8. In the Coastal Floodplain District, certification by a licensed professional engineer or architect where required for new construction and substantial improvement under s. 5.3
  
- e) Submit copies of the following items to the Department Regional office:
  - 1. Within 10 days of the decision, a copy of any decisions on variances, appeals for map or text interpretations, and map or text amendments;
  
  - 2. Copies of case-by-case analyses and other required information.
  
  - 3. Copies of substantial damage assessments performed and all related correspondence concerning the assessments.
  
- f) Investigate, prepare reports, and report violations of this ordinance to the municipal zoning agency and attorney for prosecution. Copies of the reports shall also be sent to the Department Regional office.
  
- g) Submit copies of amendments to the FEMA Regional office.

2) LAND USE PERMIT

A land use permit shall be obtained before any development; repair, modification, or addition to an existing structure; or change in the use of a building or structure, including sewer and water facilities, may be initiated. Application to the zoning administrator shall include:

a) GENERAL INFORMATION

- 1. Name and address of the applicant, property owner and contractor;
- 2. Legal description, proposed use, and whether it is new construction or a modification;

b) SITE DEVELOPMENT PLAN

A site plan drawn to scale shall be submitted with the permit application form and shall contain:

- 1. Location, dimensions, area and elevation of the lot;
- 2. Location of the ordinary highwater mark of any abutting navigable waterways;
- 3. Location of any structures with distances measured from the lot lines and street center lines;

4. Location of any existing or proposed on-site sewage systems or private water supply systems;
5. Location and elevation of existing or future access roads;
6. Location of floodplain and floodway limits as determined from the official floodplain zoning maps;
7. The elevation of the lowest floor of proposed buildings and any fill using the vertical datum from the adopted study – either National Geodetic Vertical Datum (NGVD) or North American Vertical Datum (NAVD);
8. Data sufficient to determine the regional flood elevation in NGVD or NAVD at the location of the development and to determine whether or not the requirements of s. 3.0 or 4.0 are met; and
9. Data to determine if the proposed development will cause an obstruction to flow or an increase in regional flood height or discharge according to s. 2.1. This may include any of the information noted in s. 3.3(1).

c) **HYDRAULIC AND HYDROLOGIC STUDIES TO ANALYZE DEVELOPMENT**

All hydraulic and hydrologic studies shall be completed under the direct supervision of a professional engineer registered in the State. The study contractor shall be responsible for the technical adequacy of the study. All studies shall be reviewed and approved by the Department.

1. Zone A floodplains and in AE zones within which a floodway is not delineated:

a. Hydrology

- i. The appropriate method shall be based on the standards in ch. NR 116.07(3), Wis. Admin. Code, *Hydrologic Analysis: Determination of Regional Flood Discharge*.

b. Hydraulic modeling

The regional flood elevation shall be based on the standards in ch. NR 116.07(4), Wis. Admin. Code, *Hydraulic Analysis: Determination of Regional Flood Elevation* and the following:

- i. determination of the required limits of the hydraulic model shall be based on detailed study information for downstream structures (dam, bridge, culvert) to determine adequate starting WSEL for the study.
- ii. channel sections must be surveyed.
- iii. minimum four-foot contour data in the overbanks shall be used for the development of cross section overbank and floodplain mapping.
- iv. a maximum distance of 500 feet between cross sections is allowed in developed areas with additional intermediate cross sections required at transitions in channel bottom slope including a survey of the channel at each location.
- v. the most current version of HEC-RAS shall be used.
- vi. a survey of bridge and culvert openings and the top of road is required at each structure.

- vii. additional cross sections are required at the downstream and upstream limits of the proposed development and any necessary intermediate locations based on the length of the reach if greater than 500 feet.
  - viii. standard accepted engineering practices shall be used when assigning parameters for the base model such as flow, Manning's N values, expansion and contraction coefficients or effective flow limits. The base model shall be calibrated to past flooding data such as high-water marks to determine the reasonableness of the model results. If no historical data is available, adequate justification shall be provided for any parameters outside standard accepted engineering practices.
  - ix. the model must extend past the upstream limit of the difference in the existing and proposed flood profiles in order to provide a tie-in to existing studies. The height difference between the proposed flood profile and the existing study profiles shall be no more than 0.00 feet.
- c. Mapping
- A work map of the reach studied shall be provided, showing all cross-section locations, floodway/floodplain limits based on best available topographic data, geographic limits of the proposed development and whether the proposed development is located in the floodway.
- i. If the proposed development is located outside of the floodway, then it is determined to have no impact on the regional flood elevation.
  - ii. If any part of the proposed development is in the floodway, it must be added to the base model to show the difference between existing and proposed conditions. The study must ensure that all coefficients remain the same as in the existing model, unless adequate justification based on standard accepted engineering practices is provided.

## 2. Zone AE Floodplains

- a. Hydrology
 

If the proposed hydrology will change the existing study, the appropriate method to be used shall be based on ch. NR 116.07(3), Wis. Admin. Code, *Hydrologic Analysis: Determination of Regional Flood Discharge*.
- b. Hydraulic model
 

The regional flood elevation shall be based on the standards in ch. NR 116.07(4), Wis. Admin. Code, *Hydraulic Analysis: Determination of Regional Flood Elevation* and the following:

  - i. Duplicate Effective Model
 

The effective model shall be reproduced to ensure correct transference of the model data and to allow integration of the revised data to provide a continuous FIS model upstream and downstream of the revised reach. If data from the effective model is available, models shall be generated that duplicate the FIS profiles and the elevations shown in the Floodway Data Table in the FIS report to within 0.1 foot.
  - ii. Corrected Effective Model.
 

The Corrected Effective Model shall not include any man-made physical changes since the effective model date but shall import the model into the most current version of HEC-RAS for Department review.

- iii. Existing (Pre-Project Conditions) Model.  
The Existing Model shall be required to support conclusions about the actual impacts of the project associated with the Revised (Post-Project) Model or to establish more up-to-date models on which to base the Revised (Post-Project) Model.
  - iv. Revised (Post-Project Conditions) Model.  
The Revised (Post-Project Conditions) Model shall incorporate the Existing Model and any proposed changes to the topography caused by the proposed development. This model shall reflect proposed conditions.
  - v. All changes to the Duplicate Effective Model and subsequent models must be supported by certified topographic information, bridge plans, construction plans and survey notes.
  - vi. Changes to the hydraulic models shall be limited to the stream reach for which the revision is being requested. Cross sections upstream and downstream of the revised reach shall be identical to those in the effective model and result in water surface elevations and top widths computed by the revised models matching those in the effective models upstream and downstream of the revised reach as required. The Effective Model shall not be truncated.
- c. Mapping  
Maps and associated engineering data shall be submitted to the Department for review which meet the following conditions:
- i. Consistency between the revised hydraulic models, the revised floodplain and floodway delineations, the revised flood profiles, topographic work map, annotated FIRMs and/or Flood Boundary Floodway Maps (FBFMs), construction plans, bridge plans.
  - ii. Certified topographic map of suitable scale, contour interval, and a planimetric map showing the applicable items. If a digital version of the map is available, it may be submitted in order that the FIRM may be more easily revised.
  - iii. Annotated FIRM panel showing the revised 1% and 0.2% annual chance floodplains and floodway boundaries.
  - iv. If an annotated FIRM and/or FBFM and digital mapping data (GIS or CADD) are used, then all supporting documentation or metadata must be included with the data submission along with the Universal Transverse Mercator (UTM) projection and State Plane Coordinate System in accordance with FEMA mapping specifications.
  - v. The revised floodplain boundaries shall tie into the effective floodplain boundaries.
  - vi. All cross sections from the effective model shall be labeled in accordance with the effective map and a cross section lookup table shall be included to relate to the model input numbering scheme.
  - vii. Both the current and proposed floodways shall be shown on the map.
  - viii. The stream centerline, or profile baseline used to measure stream distances in the model shall be visible on the map.

d) EXPIRATION

All permits issued under the authority of this ordinance shall expire no more than 180 days after issuance. The permit may be extended for a maximum of 180 days for good and sufficient cause. If the permitted work has not started within 180 days of the permit date, the development must comply with any regulation, including any revision to the FIRM or FIS, that took effect after the permit date.

3) CERTIFICATE OF COMPLIANCE

No land shall be occupied or used, and no building which is hereafter constructed, altered, added to, modified, repaired, rebuilt, or replaced shall be occupied until a certificate of compliance is issued by the zoning administrator, except where no permit is required, subject to the following provisions:

- a) The certificate of compliance shall show that the building or premises or part thereof, and the proposed use, conform to the provisions of this ordinance;
- b) Application for such certificate shall be concurrent with the application for a permit;
- c) If all ordinance provisions are met, the certificate of compliance shall be issued within 10 days after written notification that the permitted work is completed;
- d) The applicant shall submit a certification signed by a registered professional engineer, architect, or land surveyor that the fill, lowest floor and floodproofing elevations are in compliance with the permit issued. Floodproofing measures also require certification by a registered professional engineer or architect that the requirements of s. 7.5 are met.
- e) Where applicable pursuant to s. 5.1(4), the applicant must submit a certification by a registered professional engineer or surveyor of the elevation of the bottom of the lowest horizontal structural member supporting the lowest floor (excluding pilings or columns), and an indication of whether the structure contains a basement.
- f) Where applicable pursuant to s. 5.1(4), the applicant must submit certifications by a registered professional engineer or architect that the structural design and methods of construction meet accepted standards of practice as required by s. 5.1(4).

4) OTHER PERMITS

Prior to obtaining a floodplain development permit the applicant must secure all necessary permits from federal, state, and local agencies, including but not limited to those required by the U.S. Army Corps of Engineers under s. 404 of the Federal Water Pollution Control Act, Amendments of 1972, 33 U.S.C. 1344.

**7.2 ZONING AGENCY**

- 1) The (**zoning agency or planning committee not the board of appeals/adjustment**) [community provide agency/committee name] shall:
  - a) oversee the functions of the office of the zoning administrator; and
  - b) review and advise the governing body on all proposed amendments to this ordinance, maps, and text.
  - c) publish adequate notice pursuant to Ch. 985, Stats., specifying the date, time, place, and subject of the public hearing.



- 2) The (**zoning agency or planning committee, not the board of appeals or adjustment**) **[community provide agency/committee name]** shall not:
  - a) grant variances to the terms of the ordinance in place of action by the Board of **Adjustment/Appeals**; or
  - b) amend the text or zoning maps in place of official action by the governing body.

### 7.3 BOARD OF **ADJUSTMENT/APEALS**

**[counties have a board of adjustment, cities/villages have a board of appeals]**  
 The Board of **Adjustment/Appeals**, **[counties have a board of adjustment, cities/villages have a board of appeals]** created under s. 59.694, Stats., for counties/s. 62.23(7)(e), Stats., for cities or villages, **[choose one]** is hereby authorized or shall be appointed to act for the purposes of this ordinance. The Board shall exercise the powers conferred by Wisconsin Statutes and adopt rules for the conduct of business. The zoning administrator shall not be the secretary of the Board.

#### 1) POWERS AND DUTIES

The Board of **Adjustment/Appeals** **[counties have a board of adjustment, cities/villages have a board of appeals]** shall:

- a) Appeals - Hear and decide appeals where it is alleged there is an error in any order, requirement, decision or determination made by an administrative official in the enforcement or administration of this ordinance;
- b) Boundary Disputes - Hear and decide disputes concerning the district boundaries shown on the official floodplain zoning map; and
- c) Variances - Hear and decide, upon appeal, variances from the ordinance standards.

#### 2) APPEALS TO THE BOARD

- a) Appeals to the board may be taken by any person aggrieved, or by any officer or department of the municipality affected by any decision of the zoning administrator or other administrative officer. Such appeal shall be taken within 30 days unless otherwise provided by the rules of the board, by filing with the official whose decision is in question, and with the board, a notice of appeal specifying the reasons for the appeal. The official whose decision is in question shall transmit to the board all records regarding the matter appealed.

#### b) NOTICE AND HEARING FOR APPEALS INCLUDING VARIANCES

1. Notice - The board shall:

- a. Fix a reasonable time for the hearing;
- b. Publish adequate notice pursuant to Wisconsin Statutes, specifying the date, time, place, and subject of the hearing; and
- c. Assure that notice shall be mailed to the parties in interest and the Department Regional office at least 10 days in advance of the hearing.

2. Hearing - Any party may appear in person or by agent. The board shall:

- a. Resolve boundary disputes according to s. 7.3(3);
- b. Decide variance applications according to s. 7.3(4); and
- c. Decide appeals of permit denials according to s. 7.4.

c) DECISION: The final decision regarding the appeal or variance application shall:

1. Be made within a reasonable time;

2. Be sent to the Department Regional office within 10 days of the decision;
3. Be a written determination signed by the chairman or secretary of the Board;
4. State the specific facts which are the basis for the Board's decision;
5. Either affirm, reverse, vary or modify the order, requirement, decision, or determination appealed, in whole or in part, dismiss the appeal for lack of jurisdiction or grant or deny the variance application; and
6. Include the reasons for granting an appeal, describing the hardship demonstrated by the applicant in the case of a variance, clearly stated in the recorded minutes of the Board proceedings.

3) BOUNDARY DISPUTES

The following procedure shall be used by the Board in hearing disputes concerning floodplain district boundaries:

- a) If a floodplain district boundary is established by approximate or detailed floodplain studies, the flood elevations or profiles shall prevail in locating the boundary.
- b) The person contesting the boundary location shall be given a reasonable opportunity to present arguments and technical evidence to the Board; and
- c) If the boundary is incorrectly mapped, the Board should inform the zoning committee or the person contesting the boundary location to petition the governing body for a map amendment according to s. 8.0 *Amendments*.

4) VARIANCE

- a) The Board may, upon appeal, grant a variance from the standards of this ordinance if an applicant convincingly demonstrates that:
  1. Literal enforcement of the ordinance will cause unnecessary hardship;
  2. The hardship is due to adoption of the floodplain ordinance and unique property conditions, not common to adjacent lots or premises. In such case the ordinance or map must be amended;
  3. The variance is not contrary to the public interest; and
  4. The variance is consistent with the purpose of this ordinance in s. 1.3.
- b) In addition to the criteria in subd. (a), to qualify for a variance under FEMA regulations, the Board must find that the following criteria have been met:
  1. The variance shall not cause any increase in the regional flood elevation;
  2. The applicant has shown good and sufficient cause for issuance of the variance;
  3. Failure to grant the variance would result in exceptional hardship;
  4. Granting the variance will not result in additional threats to public safety, extraordinary expense, create a nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances;

5. The variance granted is the minimum necessary, considering the flood hazard, to afford relief.
- c) A variance shall not:
1. Grant, extend or increase any use prohibited in the zoning district;
  2. Be granted for a hardship based solely on an economic gain or loss;
  3. Be granted for a hardship which is self-created.
  4. Damage the rights or property values of other persons in the area;
  5. Allow actions without the amendments to this ordinance or map(s) required in s. 8.0 *Amendments*; and
  6. Allow any alteration of an historic structure, including its use, which would preclude its continued designation as an historic structure.
- d) When a floodplain variance is granted, the Board shall notify the applicant in writing that it may increase risks to life and property and flood insurance premiums could increase up to \$25.00 per \$100.00 of coverage. A copy shall be maintained with the variance record.

#### **7.4 TO REVIEW APPEALS OF PERMIT DENIALS**

- (1) The Zoning Agency (s. 7.2) or Board shall review all data related to the appeal. This may include:
  - a. Permit application data listed in s. 7.1(2);
  - b. Floodway/floodfringe determination data in s. 5.1(5);
  - c. Data listed in s. 3.3(1)(b) where the applicant has not submitted this information to the zoning administrator; and
  - d. Other data submitted with the application or submitted to the Board with the appeal.
- (2) For appeals of all denied permits the Board shall:
  - a. Follow the procedures of s. 7.3;
  - b. Consider zoning agency recommendations; and
  - c. Either uphold the denial or grant the appeal.
- (3) For appeals concerning increases in regional flood elevation the Board shall:
  - a. Uphold the denial where the Board agrees with the data showing an increase in flood elevation. Increases may only be allowed after amending the flood profile and map and all appropriate legal arrangements are made with all adversely affected property owners as per the requirements of s. 8.0 *Amendments*; and
  - b. Grant the appeal where the Board agrees that the data properly demonstrates that the project does not cause an increase provided no other reasons for denial exist.

## **7.5 FLOODPROOFING STANDARDS**

- (1) No permit or variance shall be issued for a non-residential structure designed to be watertight below the regional flood elevation until the applicant submits a plan certified by a registered professional engineer or architect that the floodproofing measures will protect the structure or development to or above the flood protection elevation and submits a FEMA Floodproofing Certificate. Floodproofing is not an alternative to the development standards in ss. 2.0, 3.0, 4.0, 5.1, or 5.3.
- (2) For a structure designed to allow the entry of floodwaters, no permit or variance shall be issued until the applicant submits a plan either:
  - a. certified by a registered professional engineer or architect; or
  - b. meeting or exceeding the following standards:
    1. a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
    2. the bottom of all openings shall be no higher than one foot above grade; and
    3. openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
- (3) Floodproofing measures shall be designed, as appropriate, to:
  - a. Withstand flood pressures, depths, velocities, uplift and impact forces and other regional flood factors;
  - b. Protect structures to the flood protection elevation;
  - c. Anchor structures to foundations to resist flotation and lateral movement;
  - d. Minimize or eliminate infiltration of flood waters;
  - e. Minimize or eliminate discharges into flood waters;
  - f. Placement of essential utilities to or above the flood protection elevation; and
  - g. If any part of the foundation below the flood protection elevation is enclosed, the following standards shall apply:
    1. The enclosed area shall be designed by a registered architect or engineer to allow for the efficient entry and exit of flood waters without human intervention. A minimum of two openings must be provided with a minimum net area of at least one square inch for every one square foot of the enclosed area. The lowest part of the opening can be no more than 12 inches above the adjacent grade;
    2. The parts of the foundation located below the flood protection elevation must be constructed of flood-resistant materials;
    3. Mechanical and utility equipment must be elevated or floodproofed to or above the flood protection elevation; and
    4. The use must be limited to parking, building access or limited storage.

## **7.6 PUBLIC INFORMATION**

- (1) Place marks on structures to show the depth of inundation during the regional flood.
- (2) All maps, engineering data and regulations shall be available and widely distributed.
- (3) Real estate transfers should show what floodplain district any real property is in.

## **8.0 AMENDMENTS**

Obstructions or increases may only be permitted if amendments are made to this ordinance, the official floodplain zoning maps, floodway lines and water surface profiles, in accordance with s. 8.1.

- (1) In AE Zones with a mapped floodway, no obstructions or increases shall be permitted unless the applicant receives a Conditional Letter of Map Revision from FEMA and amendments are made to this ordinance, the official floodplain zoning maps, floodway lines and water surface profiles, in accordance with s. 8.1. Any such alterations must be reviewed and approved by FEMA and the DNR.
- (2) In A Zones increases equal to or greater than 1.0 foot may only be permitted if the applicant receives a Conditional Letter of Map Revision from FEMA and amendments are made to this ordinance, the official floodplain maps, floodway lines, and water surface profiles, in accordance with s. 8.1.

## **8.1 GENERAL**

The governing body shall change or supplement the floodplain zoning district boundaries and this ordinance in the manner outlined in s. 8.2 below. Actions which require an amendment to the ordinance and/or submittal of a Letter of Map Change (LOMC) include, but are not limited to, the following:

- (1) Any fill or floodway encroachment that obstructs flow causing any increase in the regional flood height;
- (2) Any change to the floodplain boundaries and/or watercourse alterations on the FIRM;
- (3) Any changes to any other officially adopted floodplain maps listed in s. 1.5 (2)(b);
- (4) Any floodplain fill which raises the elevation of the filled area to a height at or above the flood protection elevation and is contiguous to land lying outside the floodplain;
- (5) Correction of discrepancies between the water surface profiles and floodplain maps;
- (6) Any upgrade to a floodplain zoning ordinance text required by s. NR 116.05, Wis. Adm. Code, or otherwise required by law, or for changes by the municipality; and
- (7) All channel relocations and changes to the maps to alter floodway lines or to remove an area from the floodway or the floodfringe that is based on a base flood elevation from a FIRM requires prior approval by FEMA.

## **8.2 PROCEDURES**

Ordinance amendments may be made upon petition of any party according to the provisions of **s. 62.23, Stats., for cities and villages/s. 59.69, Stats., for counties [choose one]**. The petitions shall include all data required by s. 5.1(5) and 7.1(2). The Land Use Permit shall not be issued until a Letter of Map Revision is issued by FEMA for the proposed changes.

- (1) The proposed amendment shall be referred to the zoning agency for a public hearing and recommendation to the governing body. The amendment and notice of public hearing shall be submitted to the Department Regional office for review prior to the hearing. The amendment procedure shall comply with the provisions of s. 62.23, Stats., for cities and villages/s. 59.69, Stats., for counties. [choose one]
- (2) No amendments shall become effective until reviewed and approved by the Department.
- (3) All persons petitioning for a map amendment that obstructs flow causing any increase in the regional flood height, shall obtain flooding easements or other appropriate legal arrangements from all adversely affected property owners and notify local units of government before the amendment can be approved by the governing body.

## **9.0 ENFORCEMENT AND PENALTIES**

Any violation of the provisions of this ordinance by any person shall be unlawful and shall be referred to the municipal attorney who shall expeditiously prosecute all such violators. A violator shall, upon conviction, forfeit to the municipality a penalty of not more than \$50.00 (fifty dollars), together with a taxable cost of such action. Each day of continued violation shall constitute a separate offense. Every violation of this ordinance is a public nuisance, and the creation may be enjoined, and the maintenance may be abated by action at suit of the municipality, the state, or any citizen thereof pursuant to s. 87.30, Stats.

## **10.0 DEFINITIONS**

Unless specifically defined, words and phrases in this ordinance shall have their common law meaning and shall be applied in accordance with their common usage. Words used in the present tense include the future, the singular number includes the plural and the plural number includes the singular. The word "may" is permissive, "shall" is mandatory and is not discretionary.

1. A ZONES – Those areas shown on the Official Floodplain Zoning Map which would be inundated by the regional flood. These areas may be numbered or unnumbered A Zones. The A Zones may or may not be reflective of flood profiles, depending on the availability of data for a given area.
2. AH ZONE – See “AREA OF SHALLOW FLOODING”.
3. AO ZONE – See “AREA OF SHALLOW FLOODING”.
4. ACCESSORY STRUCTURE OR USE – A facility, structure, building or use which is accessory or incidental to the principal use of a property, structure or building. An accessory structure shall not be used for human habitation.
5. ALTERATION – An enhancement, upgrade or substantial change or modification other than an addition or repair to a dwelling or to electrical, plumbing, heating, ventilating, air conditioning and other systems within a structure.
6. AREA OF SHALLOW FLOODING – A designated AO, AH, AR/AO, AR/AH, or VO zone on a community’s Flood Insurance Rate Map (FIRM) with a 1 percent or greater annual chance of flooding to an average depth of 1 to 3 feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flood may be evident. Such flooding is characterized by ponding or sheet flow.
7. BASE FLOOD – Means the flood having a one percent chance of being equaled or exceeded in any given year, as published by FEMA as part of a FIS and depicted on a FIRM.

8. BASEMENT – Any enclosed area of a building having its floor sub-grade on all sides.
9. BREAKAWAY WALL – A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.
10. BUILDING – See STRUCTURE.
11. BULKHEAD LINE – A geographic line along a reach of navigable water that has been adopted by a municipal ordinance and approved by the Department pursuant to s. 30.11, Stats., and which allows limited filling between this bulkhead line and the original ordinary highwater mark, except where such filling is prohibited by the floodway provisions of this ordinance.
12. CAMPGROUND – Any parcel of land which is designed, maintained, intended, or used for the purpose of providing sites for nonpermanent overnight use by 4 or more camping units, or which is advertised or represented as a camping area.
13. CAMPING UNIT – Any portable device, no more than 400 square feet in area, used as a temporary shelter, including but not limited to a camping trailer, motor home, bus, van, pick-up truck, or tent that is fully licensed, if required, and ready for highway use.
14. CERTIFICATE OF COMPLIANCE – A certification that the construction and the use of land or a building, the elevation of fill or the lowest floor of a structure is in compliance with all of the provisions of this ordinance.
15. CHANNEL – A natural or artificial watercourse with definite bed and banks to confine and conduct normal flow of water.
16. COASTAL FLOODPLAIN – An area along the coast of Lake Michigan or Lake Superior which is inundated by the regional flood and which is also subject to additional hazard due to wave runup.
17. COASTAL HIGH HAZARD AREA – An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast, and any other area subject to high velocity wave action from storms.
18. CRAWLWAYS or CRAWL SPACE – An enclosed area below the first usable floor of a building, generally less than five feet in height, used for access to plumbing and electrical utilities.
19. DECK – An unenclosed exterior structure that has no roof or sides and has a permeable floor which allows the infiltration of precipitation.
20. DEPARTMENT – The Wisconsin Department of Natural Resources.
21. DEVELOPMENT – Any artificial change to improved or unimproved real estate, including, but not limited to, the construction of buildings, structures or accessory structures; the construction of additions or alterations to buildings, structures or accessory structures; the repair of any damaged structure or the improvement or renovation of any structure, regardless of percentage of damage or improvement; the placement of buildings or structures; subdivision layout and site preparation; mining, dredging, filling, grading, paving, excavation or drilling operations; the storage, deposition or extraction of materials or equipment; and the installation, repair or removal of public or private sewage disposal systems or water supply facilities.
22. DRYLAND ACCESS – A vehicular access route which is above the regional flood elevation, and which connects land located in the floodplain to land outside the floodplain, such as a road with its surface above regional flood elevation and wide enough for wheeled rescue and relief

vehicles.

23. ENCROACHMENT – Any fill, structure, equipment, use or development in the floodway.
24. FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) – The federal agency that administers the National Flood Insurance Program.
25. FLOOD INSURANCE RATE MAP (FIRM) – A map of a community on which the Federal Insurance Administration has delineated both the floodplain and the risk premium zones applicable to the community. This map can only be amended by the Federal Emergency Management Agency.
26. FLOOD or FLOODING – A general and temporary condition of partial or complete inundation of normally dry land areas caused by one of the following conditions:
  - The overflow or rise of inland waters;
  - The rapid accumulation or runoff of surface waters from any source;
  - The inundation caused by waves or currents of water exceeding anticipated cyclical levels along the shore of Lake Michigan or Lake Superior; or
  - The sudden increase caused by an unusually high-water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a seiche, or by some similarly unusual event.
27. FLOOD FREQUENCY – The probability of a flood occurrence which is determined from statistical analyses. The frequency of a particular flood event is usually expressed as occurring, on the average once in a specified number of years or as a percent (%) chance of occurring in any given year.
28. FLOODFRINGE – That portion of the floodplain outside of the floodway which is covered by flood waters during the regional flood and associated with standing water rather than flowing water.
29. FLOOD HAZARD BOUNDARY MAP – A map designating approximate flood hazard areas. Flood hazard areas are designated as unnumbered A-Zones and do not contain floodway lines or regional flood elevations. This map forms the basis for both the regulatory and insurance aspects of the National Flood Insurance Program (NFIP) until superseded by a Flood Insurance Study and a Flood Insurance Rate Map.
30. FLOOD INSURANCE STUDY – A technical engineering examination, evaluation, and determination of the local flood hazard areas. It provides maps designating those areas affected by the regional flood and provides both flood insurance rate zones and base flood elevations and may provide floodway lines. The flood hazard areas are designated as numbered and unnumbered A-Zones. Flood Insurance Rate Maps, that accompany the Flood Insurance Study, form the basis for both the regulatory and the insurance aspects of the National Flood Insurance Program.
31. FLOODPLAIN – Land which has been or may be covered by flood water during the regional flood. It includes the floodway and the floodfringe and may include other designated floodplain areas for regulatory purposes.
32. FLOODPLAIN ISLAND – A natural geologic land formation within the floodplain that is surrounded, but not covered, by floodwater during the regional flood.
33. FLOODPLAIN MANAGEMENT – Policy and procedures to ensure wise use of floodplains, including mapping and engineering, mitigation, education, and administration and enforcement of floodplain regulations.
34. FLOOD PROFILE – A graph or a longitudinal profile line showing the relationship of the water



surface elevation of a flood event to locations of land surface elevations along a stream or river.

35. FLOODPROOFING – Any combination of structural provisions, changes or adjustments to properties and structures, water and sanitary facilities and contents of buildings subject to flooding, for the purpose of reducing or eliminating flood damage.
36. FLOOD PROTECTION ELEVATION – An elevation of two feet of freeboard above the Regional Flood Elevation. (Also see: FREEBOARD.)
37. FLOOD STORAGE – Those floodplain areas where storage of floodwaters has been taken into account during analysis in reducing the regional flood discharge.
38. FLOODWAY – The channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional flood discharge.
39. FREEBOARD – A safety factor expressed in terms of a specified number of feet above a calculated flood level. Freeboard compensates for any factors that cause flood heights greater than those calculated, including ice jams, debris accumulation, wave action, obstruction of bridge openings and floodways, the effects of watershed urbanization, loss of flood storage areas due to development and aggregation of the river or stream bed.
40. HABITABLE STRUCTURE – Any structure or portion thereof used or designed for human habitation.
41. HEARING NOTICE – Publication or posting meeting the requirements of Ch. 985, Stats. For appeals, a Class 1 notice, published once at least one week (7 days) before the hearing, is required. For all zoning ordinances and amendments, a Class 2 notice, published twice, once each week consecutively, the last at least a week (7 days) before the hearing. Local ordinances or bylaws may require additional notice, exceeding these minimums.
42. HIGH FLOOD DAMAGE POTENTIAL – Damage that could result from flooding that includes any danger to life or health or any significant economic loss to a structure or building and its contents.
43. HIGHEST ADJACENT GRADE – The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.
44. HISTORIC STRUCTURE – Any structure that is either:
  - Listed individually in the National Register of Historic Places or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
  - 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;
  - 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
  - Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program, as determined by the Secretary of the Interior; or by the Secretary of the Interior in states without approved programs.
45. INCREASE IN REGIONAL FLOOD HEIGHT – A calculated upward rise in the regional flood elevation greater than 0.00 foot, based on a comparison of existing conditions and proposed conditions which is directly attributable to development in the floodplain but not attributable to manipulation of mathematical variables such as roughness factors, expansion and contraction coefficients and discharge.

46. LAND USE – Any nonstructural use made of unimproved or improved real estate. (Also see DEVELOPMENT.)
47. LOWEST ADJACENT GRADE – Elevation of the lowest ground surface that touches any of the exterior walls of a building.
48. LOWEST FLOOR – The lowest floor of the lowest enclosed area (including basement). An enclosed space as provided in s. 5.3(2)(f), is not considered the building's lowest floor.
49. MAINTENANCE – The act or process of ordinary upkeep and repairs, including redecorating, refinishing, nonstructural repairs, or the replacement of existing fixtures, systems or equipment with equivalent fixtures, systems, or structures.
50. MANUFACTURED HOME – A structure transportable in one or more sections, which is built on a permanent chassis and is designed to be used with or without a permanent foundation when connected to required utilities. The term "manufactured home" includes a mobile home but does not include a "mobile recreational vehicle."
51. MOBILE/MANUFACTURED HOME PARK OR SUBDIVISION – A parcel (or contiguous parcels) of land, divided into two or more manufactured home lots for rent or sale.
52. MOBILE/MANUFACTURED HOME PARK OR SUBDIVISION, EXISTING – A parcel of land, divided into two or more manufactured home lots for rent or sale, on which the construction of facilities for servicing the lots is completed before the effective date of this ordinance. At a minimum, this would include the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads.
53. MOBILE/MANUFACTURED HOME PARK, EXPANSION TO EXISTING – The preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed. This includes installation of utilities, construction of streets and either final site grading, or the pouring of concrete pads.
54. MOBILE RECREATIONAL VEHICLE – A vehicle which is built on a single chassis, 400 square feet or less when measured at the largest horizontal projection, designed to be self-propelled, carried or permanently towable by a licensed, light-duty vehicle, is licensed for highway use if registration is required and is designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel or seasonal use. Manufactured homes that are towed or carried onto a parcel of land, but do not remain capable of being towed or carried, including park model homes, do not fall within the definition of "mobile recreational vehicles."
55. MODEL, CORRECTED EFFECTIVE – A hydraulic engineering model that corrects any errors that occur in the Duplicate Effective Model, adds any additional cross sections to the Duplicate Effective Model, or incorporates more detailed topographic information than that used in the current effective model.
56. MODEL, DUPLICATE EFFECTIVE – A copy of the hydraulic analysis used in the effective FIS and referred to as the effective model.
57. MODEL, EFFECTIVE – The hydraulic engineering model that was used to produce the current effective Flood Insurance Study.
58. MODEL, EXISTING (PRE-PROJECT) – A modification of the Duplicate Effective Model or Corrected Effective Model to reflect any man-made modifications that have occurred within the floodplain since the date of the effective model but prior to the construction of the project for which the revision is being requested. If no modification has occurred since the date of the

effective model, then this model would be identical to the Corrected Effective Model or Duplicate Effective Model.

59. MODEL, REVISED (POST-PROJECT) – A modification of the Existing or Pre-Project Conditions Model, Duplicate Effective Model or Corrected Effective Model to reflect revised or post-project conditions.
60. MODERATE WAVE ACTION AREA (MoWA) – A special flood hazard area subject to the potential for breaking wave heights of greater than or equal to 1.5 feet, but less than 3 feet, where the primary source of flooding is astronomical tides, storm surges, seiches, and/or tsunamis. A MoWA is an area within zone AE on a FIRM that is between the inland limit of zone VE and a Limit of Moderate Wave Action, where identified. (Also known as “coastal A zone”)
61. MUNICIPALITY or MUNICIPAL – The county, city or village governmental units enacting, administering, and enforcing this zoning ordinance.
62. NAVD or NORTH AMERICAN VERTICAL DATUM – Elevations referenced to mean sea level datum, 1988 adjustment.
63. NGVD or NATIONAL GEODETIC VERTICAL DATUM – Elevations referenced to mean sea level datum, 1929 adjustment.
64. NEW CONSTRUCTION – Structures for which the start of construction commenced on or after the effective date of a floodplain zoning regulation adopted by this community and includes any subsequent improvements to such structures.
65. NON-FLOOD DISASTER – A fire or an ice storm, tornado, windstorm, mudslide, or other destructive act of nature, but excludes a flood.
66. NONCONFORMING STRUCTURE – An existing lawful structure or building which is not in conformity with the dimensional or structural requirements of this ordinance for the area of the floodplain which it occupies. (For example, an existing residential structure in the floodfringe district is a conforming use. However, if the lowest floor is lower than the flood protection elevation, the structure is nonconforming.)
67. NONCONFORMING USE – An existing lawful use or accessory use of a structure or building which is not in conformity with the provisions of this ordinance for the area of the floodplain which it occupies. (Such as a residence in the floodway.)
68. OBSTRUCTION TO FLOW – Any development which blocks the conveyance of floodwaters such that this development alone or together with any future development will cause an increase in regional flood height.
69. OFFICIAL FLOODPLAIN ZONING MAP – That map, adopted and made part of this ordinance, as described in s. 1.5(2), which has been approved by the Department and FEMA.
70. OPEN SPACE USE – Those uses having a relatively low flood damage potential and not involving structures.
71. ORDINARY HIGHWATER MARK – The point on the bank or shore up to which the presence and action of surface water is so continuous as to leave a distinctive mark such as by erosion, destruction or prevention of terrestrial vegetation, predominance of aquatic vegetation, or other easily recognized characteristic.
72. PERSON – An individual, or group of individuals, corporation, partnership, association, municipality, or state agency.

73. PRIMARY FRONTAL DUNE – A continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.
74. PRIVATE SEWAGE SYSTEM – A sewage treatment and disposal system serving one structure with a septic tank and soil absorption field located on the same parcel as the structure. It also means an alternative sewage system approved by the Department of Safety and Professional Services, including a substitute for the septic tank or soil absorption field, a holding tank, a system serving more than one structure, or a system located on a different parcel than the structure.
75. PUBLIC UTILITIES – Those utilities using underground or overhead transmission lines such as electric, telephone and telegraph, and distribution and collection systems such as water, sanitary sewer, and storm sewer.
76. REASONABLY SAFE FROM FLOODING – Means base flood waters will not inundate the land or damage structures to be removed from the floodplain and that any subsurface waters related to the base flood will not damage existing or proposed buildings.
77. REGIONAL FLOOD – A flood determined to be representative of large floods known to have occurred in Wisconsin. A regional flood is a flood with a one percent chance of being equaled or exceeded in any given year, and if depicted on the FIRM, the RFE is equivalent to the BFE.
78. SAND DUNES – Naturally occurring accumulations of sand in ridges or mounds landward of the beach.
79. START OF CONSTRUCTION – The date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond initial 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 structure. For an alteration, 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.
80. STRUCTURE – Any manmade object with form, shape and utility, either permanently or temporarily attached to, placed upon or set into the ground, stream bed or lakebed, including, but not limited to, roofed and walled buildings, gas or liquid storage tanks, bridges, dams and culverts.
81. SUBDIVISION – Has the meaning given in s. 236.02(12), Wis. Stats.
82. SUBSTANTIAL DAMAGE – Damage of any origin sustained by a structure, whereby the cost of restoring the structure to its pre-damaged condition would equal or exceed 50 percent of the equalized assessed value of the structure before the damage occurred.
83. SUBSTANTIAL IMPROVEMENT – Any repair, reconstruction, rehabilitation, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the

equalized assessed value of the structure before the improvement or repair is started. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the work performed. The term does not include either any project for the improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assure safe living conditions; or any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

84. **UNNECESSARY HARDSHIP** – Where special conditions affecting a particular property, which were not self-created, have made strict conformity with restrictions governing areas, setbacks, frontage, height, or density unnecessarily burdensome or unreasonable in light of the purposes of the ordinance.
85. **VARIANCE** – An authorization by the board of adjustment or appeals for the construction or maintenance of a building or structure in a manner which is inconsistent with dimensional standards (not uses) contained in the floodplain zoning ordinance.
86. **VIOLATION** – The failure of a structure or other development to be fully compliant with the floodplain zoning ordinance. A structure or other development without required permits, lowest floor elevation documentation, floodproofing certificates or required floodway encroachment calculations is presumed to be in violation until such time as that documentation is provided.
87. **WATERSHED** – The entire region contributing runoff or surface water to a watercourse or body of water.
88. **WATER SURFACE PROFILE** – A graphical representation showing the elevation of the water surface of a watercourse for each position along a reach of river or stream at a certain flood flow. A water surface profile of the regional flood is used in regulating floodplain areas.
89. **WELL** – means an excavation opening in the ground made by digging, boring, drilling, driving or other methods, to obtain groundwater regardless of its intended use.