

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Floodplain Program Updates

Sarah Rafajko, NFIP Coordinator

March 19, 2026 – WCCA Spring Conference



Floodplain Program Updates



Partial Government shutdown



FERA – Floodplain Enhancement and Recovery Act – Senate bill



ASFPM Conference – May 31-June 4



Regional Floodplain Training Days...

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Act 175 Changes

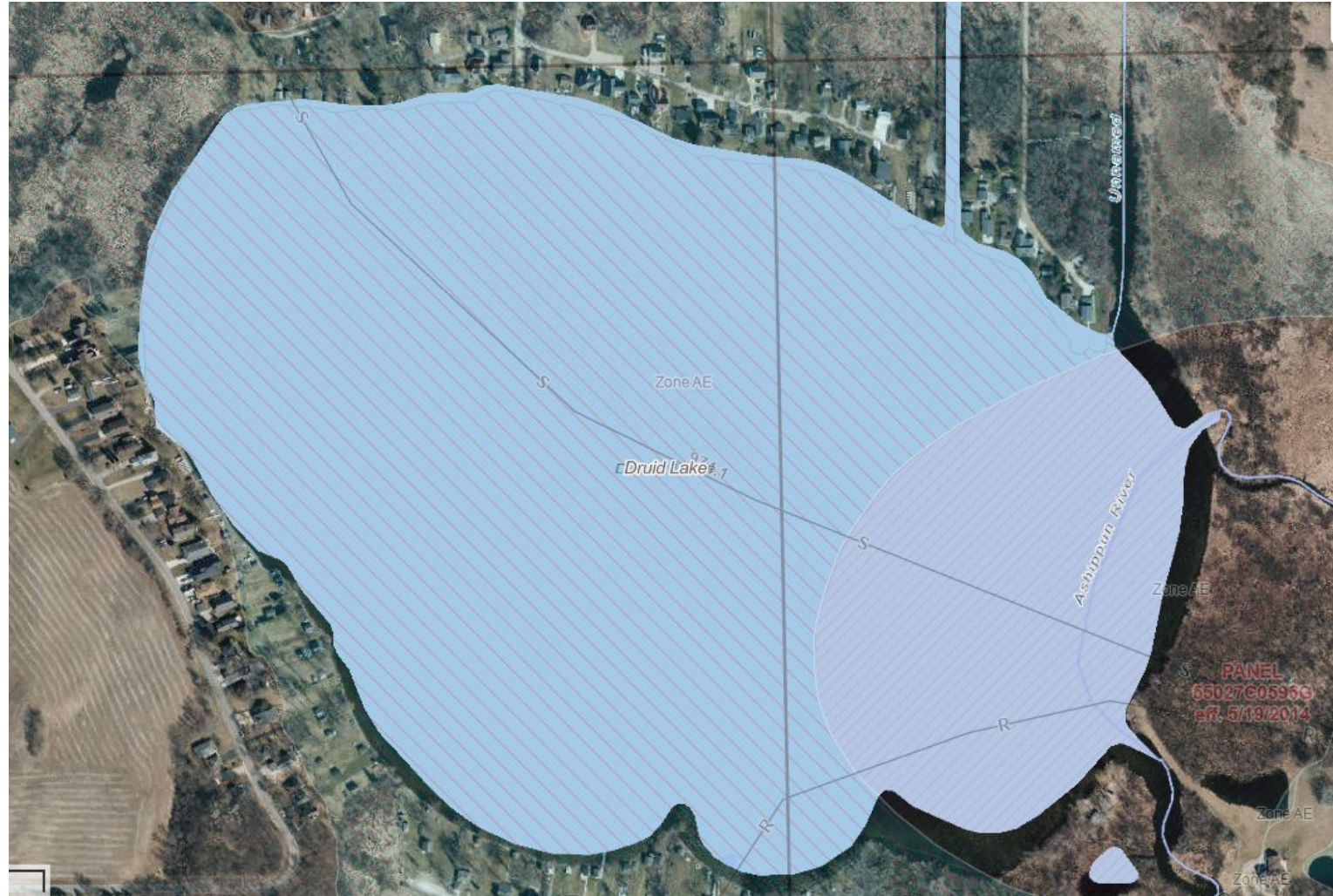
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Context that led to this change

- Washington County LFD
- Lake homes mapped into Flood Storage District
- Property owners were deeply concerned they would not be able to rebuild because of the regulations from Flood Storage and usability of their property and access if they need to meet the flood fringe requirements.
- Property owners were not comfortable that resolution could be found by variance.



5.2 Flood Storage District

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.

4.3 Standards for Development in the Floodfringe

(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.

6.0 Non-conforming Uses

- a) 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.
- b) 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 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.

6.1 (4)

Act 175 Language

- 1) 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

Wis. Stat. 87.30(1d)

(1d) Improvements to nonconforming buildings.

(a) In this subsection:

1. “Nonconforming building” has the meaning specified by rule by the department for purposes of floodplain zoning under this section and includes a building with a nonconforming use.
2. “Nonconforming use” has the meaning specified by rule by the department for purposes of floodplain zoning under this section.
3. “Nonflood disaster” means a fire or an ice storm, tornado, windstorm, mudslide or other destructive act of nature, but excludes a flood.

(b) For nonconforming buildings that are damaged or destroyed by a nonflood disaster a floodplain zoning ordinance shall permit the repair, reconstruction or improvement of any such nonconforming building, in order to restore it after the nonflood disaster except as provided in par. (c).

(c) A floodplain zoning ordinance may not permit the repair, reconstruction or improvement of a nonconforming building if the nonconforming building, after repair, reconstruction or improvement, will fail to meet one or more of the minimum requirements applicable to such a nonconforming building under 42 USC 4001 to 4129 or under the regulations promulgated thereunder.

(d) If the department regulates or prohibits repair, reconstruction, or improvement of a nonconforming building, the department may not do so based on cost if, as a result of repair, reconstruction, or improvement authorized under county, city, village, or town regulations, all of the following apply:

1. The entire nonconforming building is or will be permanently changed to comply with the applicable requirements under 42 USC 4001 to 4129 or the regulations promulgated under those provisions.
2. Any living quarters in the nonconforming building are or will be at or above the flood protection elevation, as established by the department.

Act 175 Language Revision in Model Ord.

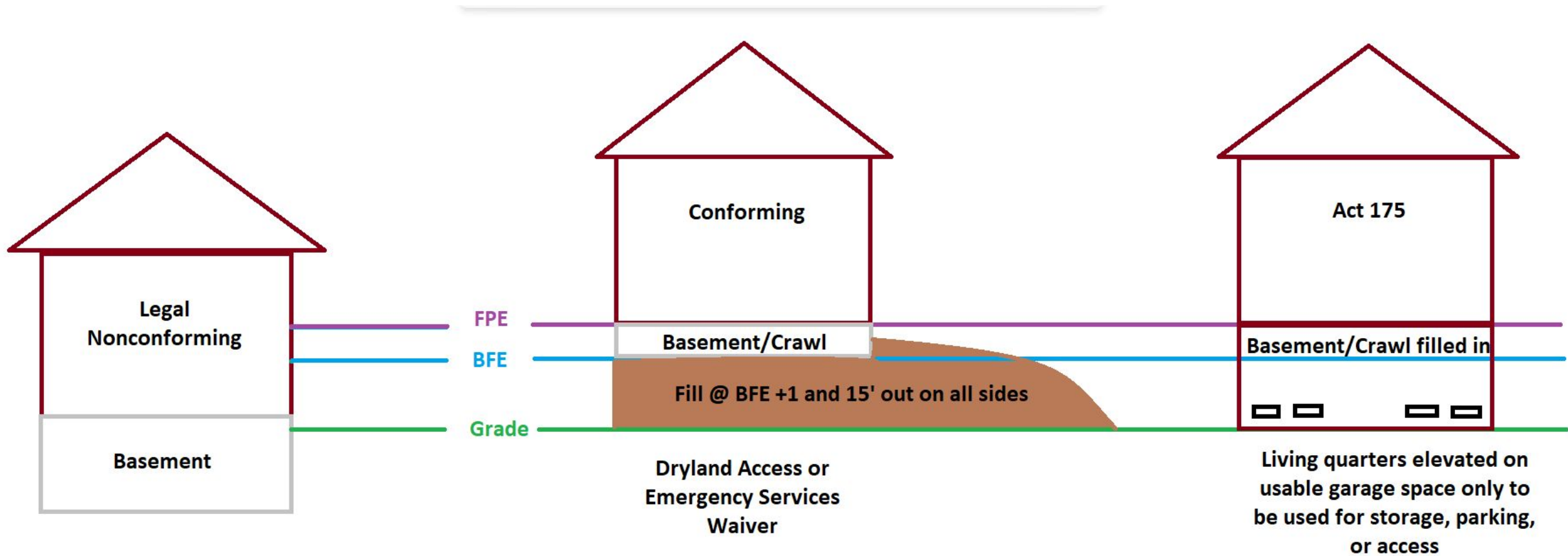
Original Text

- 1) 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

Revised Text

- 1) 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) [Pick option 1 or 2 for language for (e)] 1. 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;

[OR pick 2.] If the nonconforming building is in the floodfringe and the building does not conform to the applicable requirements of 4.3 and 6.3, the building will remain nonconforming.



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POWTS in Floodplains

Sarah Rafajko, NFIP Coordinator

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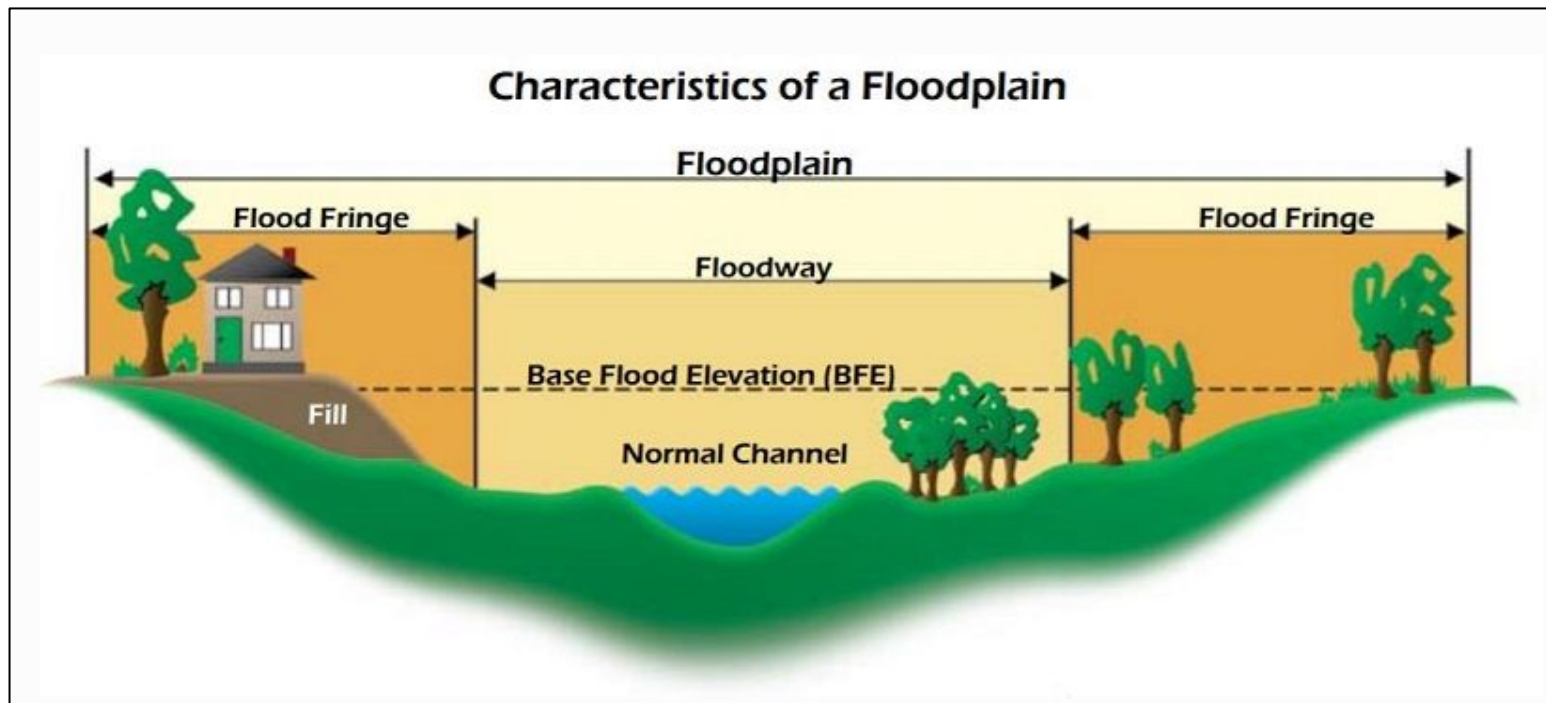


Definitions & Synonymous Terms

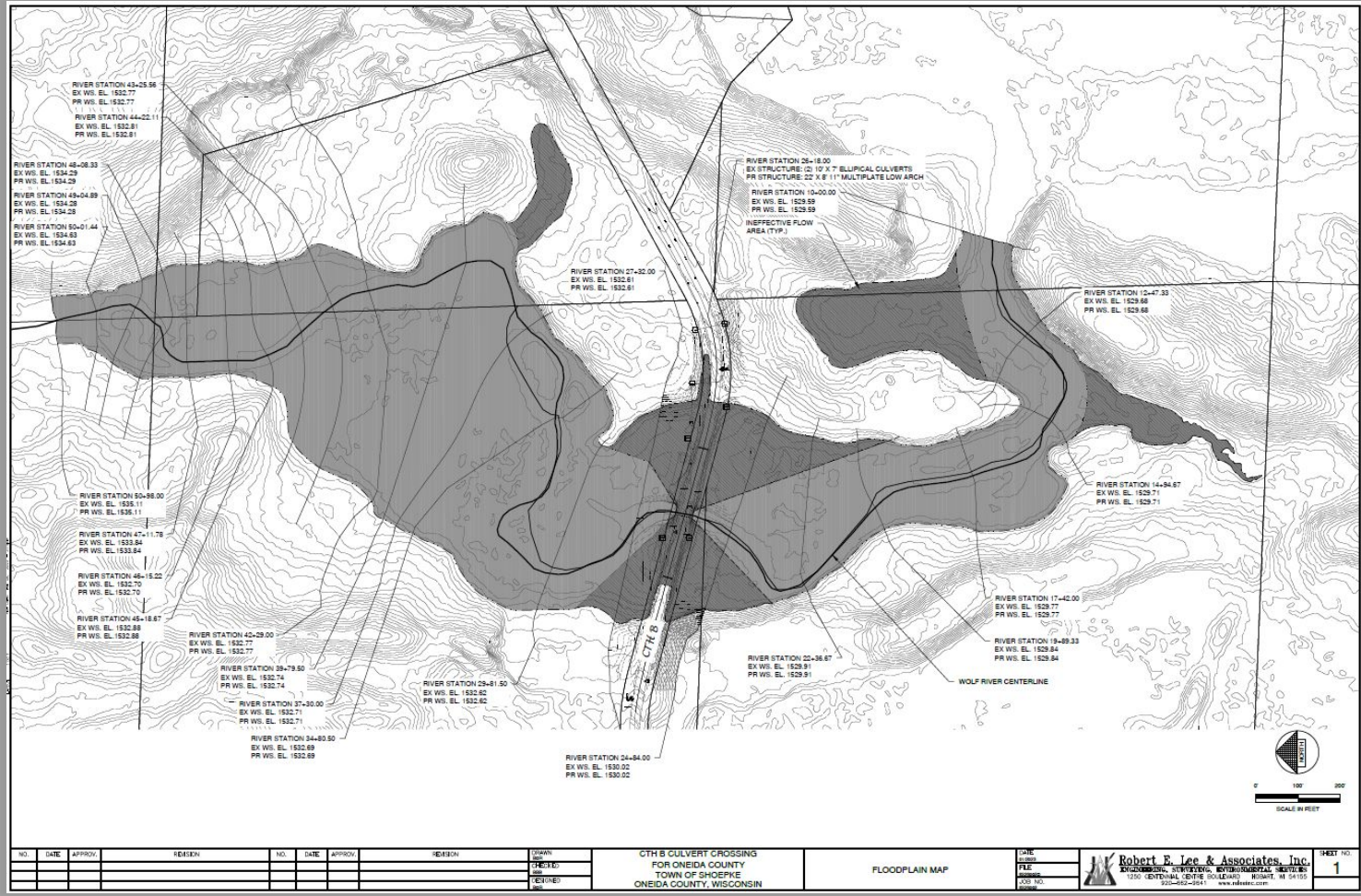
- Floodway
 - The channel portion of a river or stream, and those portions of the floodplain adjoining the channel required to carry the regional flood discharge
- Floodfringe
 - That portion of the floodplain outside of the floodway, which is covered by flood water during the regional flood. The term is generally associated with standing water rather than flowing water
- Zone AE
 - The base floodplain where Regional Flood Elevations (RFE's) are provided
- Zone A
 - The base floodplains mapped by approximate methods, i.e., RFEs are not determined. Often called unnumbered A Zone or approximate A zone. Without a study, Zone A needs to be treated as entirely floodway.
- 1% Chance Flood
- 100-Year Flood
- Base Flood Elevation or BFE (FEMA)
- Regional Flood Elevation (Wisconsin DNR)
- Special Flood Hazard Area or SFHA
- High Flood Risk Area

Elements of a Floodplain

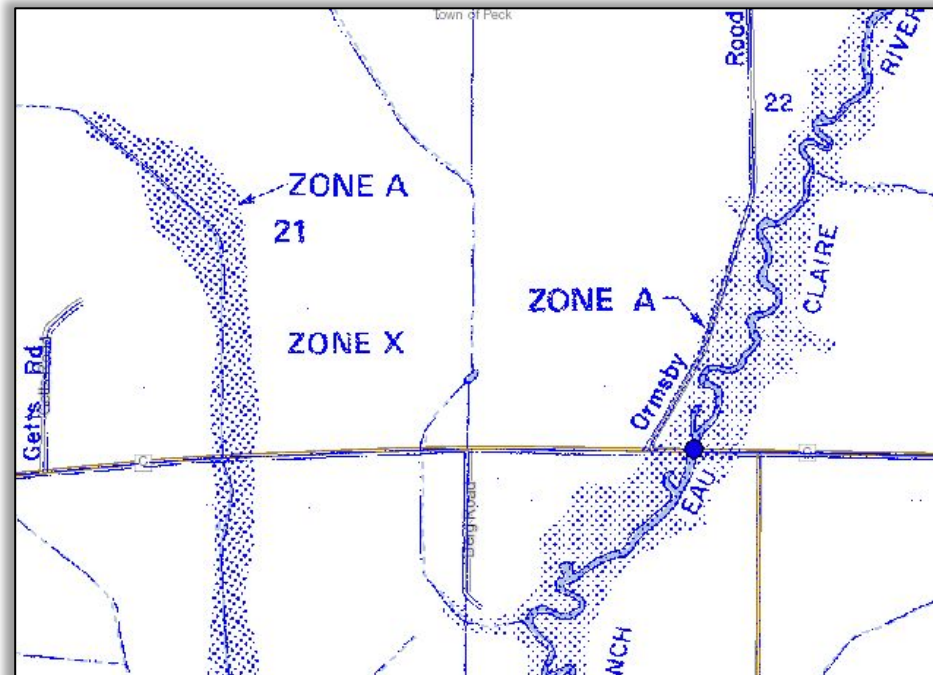
- **Base Flood Elevation (BFE)**, is the elevation determined to be representative of large floods known to have occurred in Wisconsin or which may be expected to occur on a particular lake, river, or stream at a frequency of 1 percent during any given year.
- **Flood Protection Elevation** means an elevation 2 feet above the regional flood elevation/BFE.



Other Detailed Flood Study Maps



Zone A / Approximate Maps



Sewage Systems in Floodplains

(Private Onsite Wastewater Treatment System, POWTS)

From Wisconsin Admin. Code NR 116 “Wisconsin’s Floodplain Management Program”:

In the Floodway

New POWTS are prohibited unless associated with recreational areas that meet local ordinances. Existing POWTS may be repaired or replaced (at the same size) in the Floodway. Repair or replacement of a POWTS is considered maintenance and does not count towards the “50%” rule. An H&H analysis may be required if the system is above ground in order to determine the effect to the BFE. A replacement in the Floodway must also meet the Floodfringe standards below:

In the Floodfringe

POWTS are allowed if they meet the provisions of the local ord. and ch. SPS 383 (admin. Code regulating POWTS).

The Model Ordinance states that POWTS must be designed to minimize or eliminate infiltration of flood waters into the system, pursuant to s. 7.5(3), to the flood protection elevation. 7.5(3) requires that systems be designed 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;

Sewage Systems in Floodplains

Cont.

Is my proposed POWTS in a mapped floodplain?

**WDNR Surface Water Data Viewer
(SWDV)**



**County GIS
Website**



Sewage Systems in Floodplains

Cont.

How do I know what elevation I need to floodproof to?

- AE Zones provide BFE's that can be used to calculate the flood protection elevation. In-between BFE lines, interpolate the BFE.

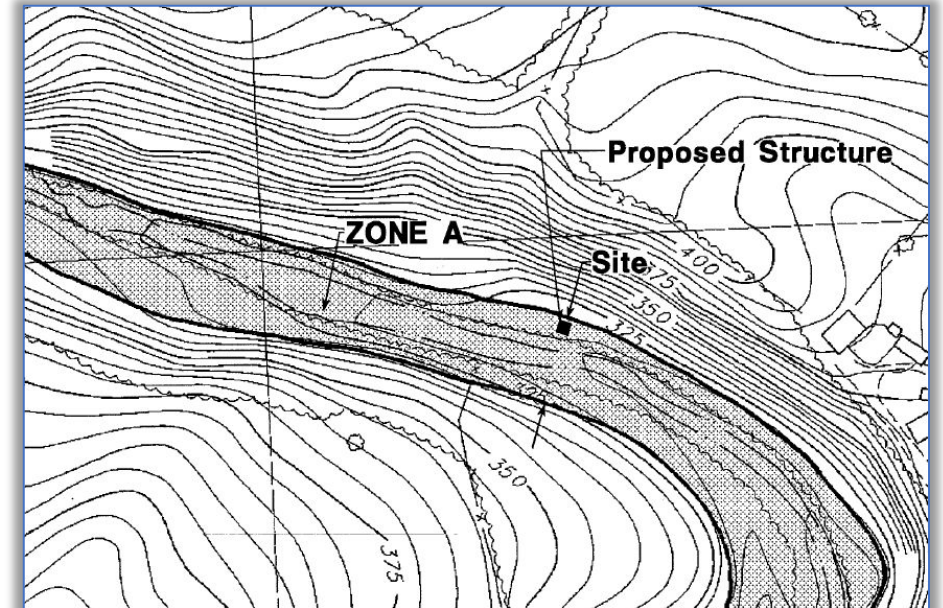
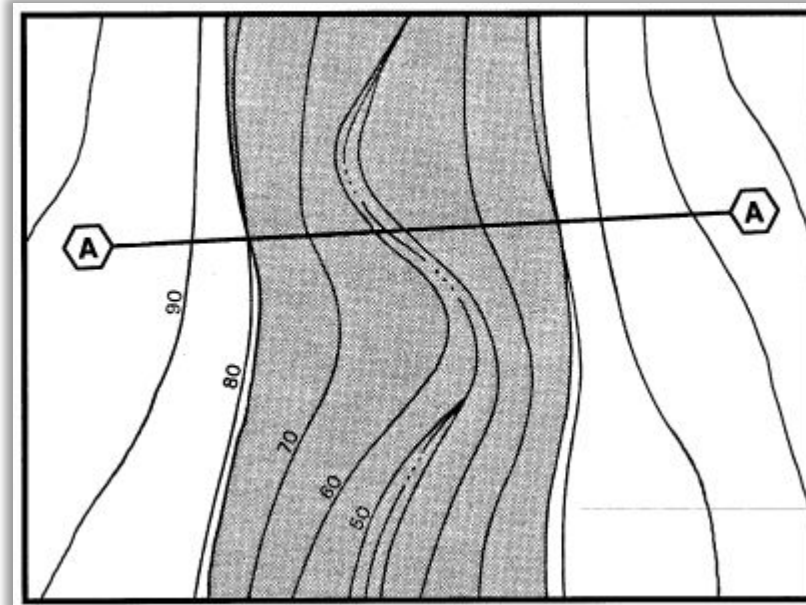
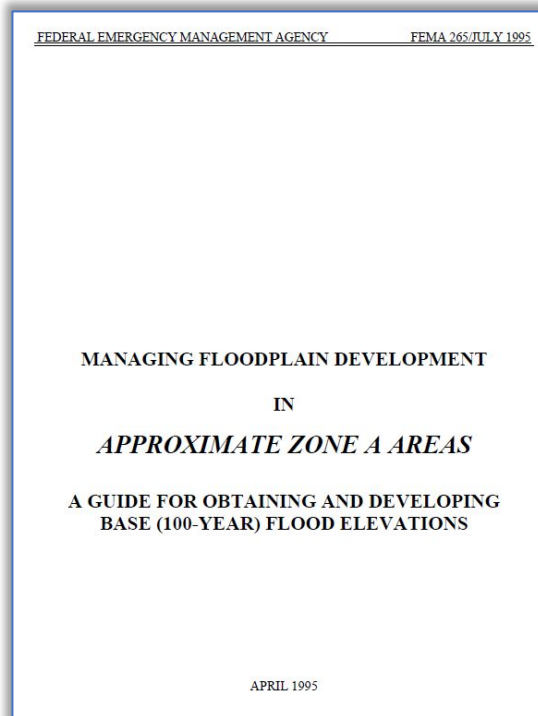


Sewage Systems in Floodplains

Cont.

How do I know what elevation I need to floodproof to?

- **A Zones do not provide BFE's. BFE's and Flood Protection Elevations can be approximated by comparing topographic lines to the limits of the Zone A Floodplain.**



Sewage Systems in Floodplains

Cont.

Floodproofing Techniques for POWTS

- **Buoyancy/Lateral Forces**

1. Anchoring – anchors can be attached from the tank to concrete collars, concrete slabs, or other “deadman anchors” constructed to counter the effects of floodwaters and saturated soil causing tanks to be buoyant. POWTS in a floodway (moving water) may need to account for soil scour and lateral movement due to soil loss around the tank or other elements. Vents and protruding pipes need protection from floating/moving objects.
2. Soil cover over the tank can be combined with tanks constructed with soil grabbing surfaces/lips which use the weight of the soil above it to resist buoyancy forces. Must be an engineered system with calculations to determine soil requirements.

*Remember – Even a concrete septic tank can “float” if it is in saturated soil or floodwaters!

- **Infiltration of Floodwater**

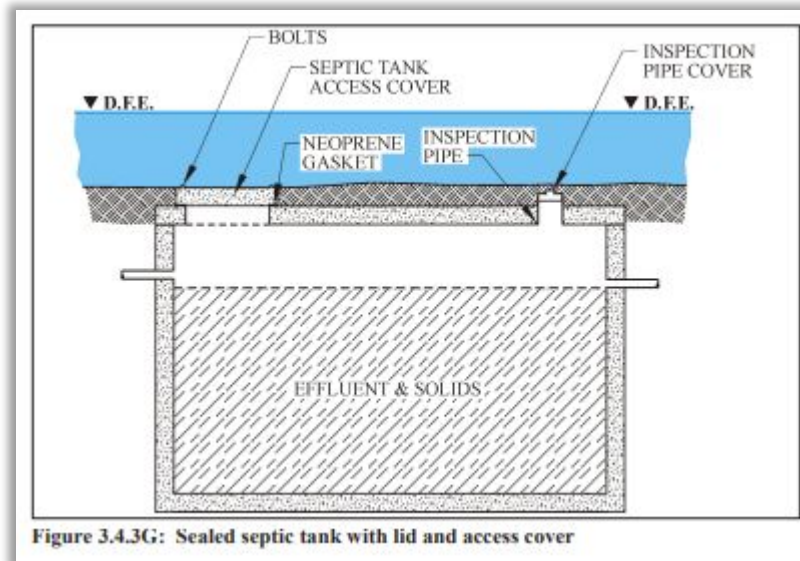
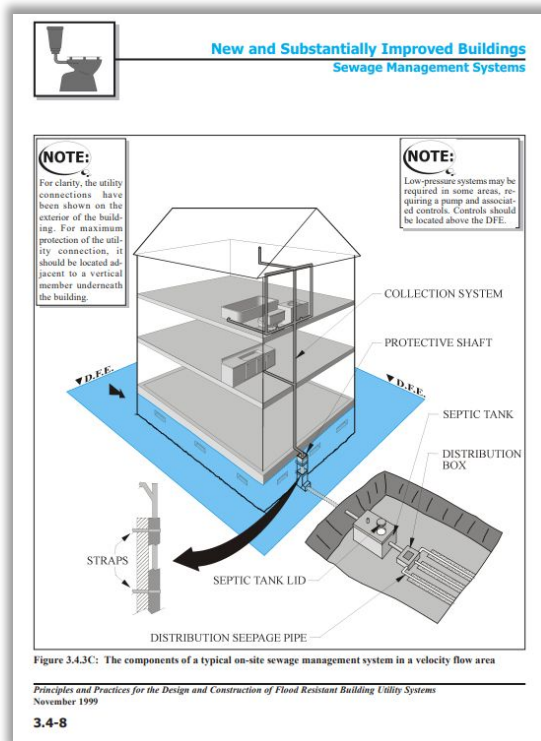
1. Gaskets or seals on entrances to the tank, bolt down covers
2. Check valve /backflow preventer on sewer lines
3. Vents and observation pipes must terminate at least 2 feet above regional flood levels.

FEMA Publication “New and Substantially Improved Buildings – Sewage Management Systems” provides guidance but must be checked against state and local codes.

Sewage Systems in Floodplains

Cont.

FEMA Publication “New and Substantially Improved Buildings – Sewage Management Systems” provides guidance but must be checked against state and local codes.



B. Protecting Distribution Pipes in Leach Fields

On-site sewage disposal is done through leach fields that use the soil as a filter. Solids are removed at the septic tank before partially treated sewage is delivered to the leach field through distribution pipes that lead to seepage trenches, pits, or beds. This is often the final stage of on-site sewage management. These components of the system are typically less likely to be damaged by floodwaters, but they are the most expensive to install. Therefore special care should be exercised when designing the distribution pipes to ensure that they are not exposed to potential damage.

On-site disposal systems are most at risk of flood damage in V Zones and velocity flow A Zones where erosion and scour can expose the components to velocity flow and debris impact. The best protection technique for on-site disposal systems is to locate them outside of floodprone areas. If this cannot be achieved, then on-site disposal systems should be located outside of V Zones and A Zone areas subjected to velocity flow. As a last resort, on-site disposal systems can be protected by burying the distribution pipes and seepage beds, pits, or trenches below the expected level of erosion and scour. If applicable health codes or ordinances do not permit the burial of the disposal system components to a depth protected from erosion and scour or allow them in the floodplain at all; then an acceptable alternative disposal site or method must be chosen.

In addition to the problems caused by erosion and scour, leach fields can be rendered inoperable if the surrounding soil becomes saturated. Leach fields rely on surrounding soil that can accept additional moisture to operate properly. If the surrounding soil cannot accept additional moisture, the leach field will not drain and the septic system will begin to back up. Resolving this type of situation can be very difficult because it is a function of several different factors including soil types, stratification, leach field depth, and water table depth. Therefore, recommendations to remedy this situation are not included in this manual, rather, a qualified sewer designer, who is familiar with local soil conditions, should be consulted.

CONNECT WITH US

Sarah Rafajko, CFM

Sarah.Rafajko@wisconsin.gov



/WIDNR



@WIDNR



@WI_DNR



/WIDNRTV



"WILD WISCONSIN:
OFF THE RECORD"