Manitowoc County Shoreland Zoning

Pete Tarnowski
Reed Gaedtke

Manitowoc County Planning & Zoning Department
(920) 683-4185

Shoreland Zoning

- History
- Standards
  - Setback Averaging
  - Exempt Structures
  - Lake Michigan
  - Vegetative Buffers
  - Filling and Grading
  - Impervious Surfaces
  - Non-conforming Structures
  - Mitigation
- Additional Shoreland Issues
- Questions

~230 years ago

- Northwest Ordinance established the Public Trust Doctrine saying "The navigable waters … shall be common highways, and forever free."

~170 years ago

- 1848- WI Constitution also said "The navigable waters … shall be common highways, and forever free."
- 1899- WI Supreme Court agreed that preserving navigable waters was a state obligation

Shoreland Zoning History

- State of WI has obligation to protect the public's rights in all navigable waters including boating, fishing, swimming & hunting.

- Shoreland zoning, adopted in 1966, protects public rights through its purposes.

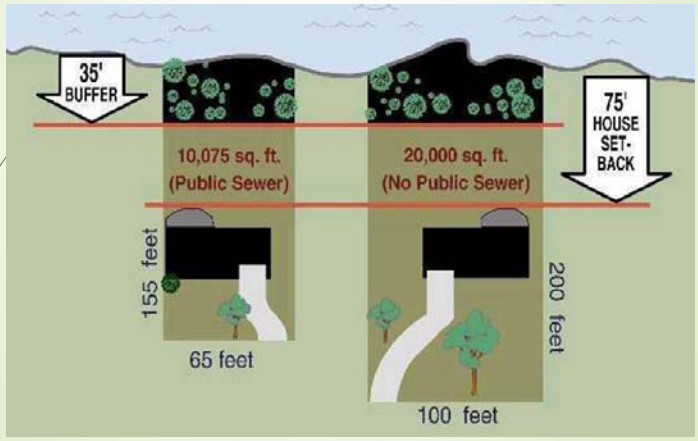
Manitowoc County Shoreland Ordinance

- Effective October 1, 2016
- Purpose (Wis. Stat. § 281.31)
  - Preserve the safety and well being of the people who utilize the shoreland.
  - Aid in the prevention and control of water pollution.
  - Protect spawning beds, fish and aquatic life.
  - Control building sites, placement of structures and land uses.
  - Preserve shore cover & natural scenic beauty.

Shoreland Zoning Standards

- 2015 Act 55
  - 1. Lot Sizes
  - 2. Building Setbacks
  - 3. Vegetation
  - 4. Filling, grading, lagooning, dredging, ditching and excavating.
  - 5. Impervious Surfaces
  - 6. Height
  - 7. Nonconforming Structures and Uses.

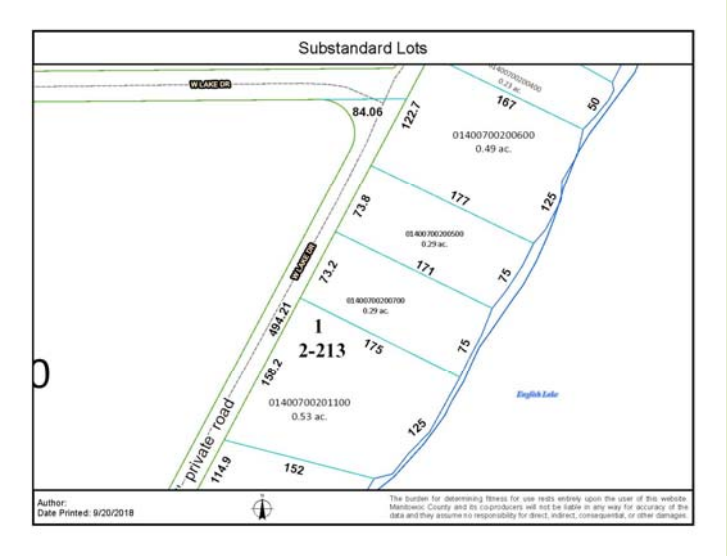
Lot Sizes



2017 Wisconsin Act 68

- Allows for development of substandard lots providing:
  - Lot has not been reconfigured or combined with adjacent lot into one tax parcel.
  - Lot was never developed with structure placed over property line.
  - Must meet all other requirements.

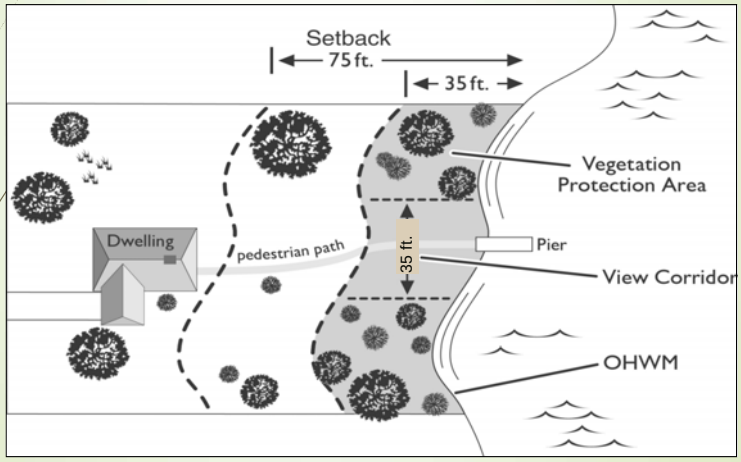
Substandard Lots



Building Setbacks

- Required setback is 75' for all structures.
  - Setback averaging for principal structures if the proposed development qualifies.
  - Exempt Structures.
  - 50% rule eliminated.

Setbacks



Setbacks

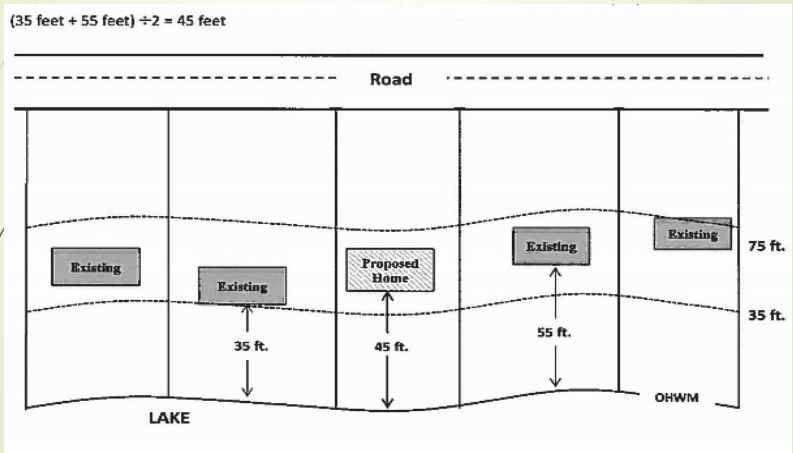
Setback Averaging

- Only allowed for principal structures. Additions, garages or other accessory structures are not included.
- A building pattern within 75' from the OHWM must exist.
  - If one house is 30 feet and the other house is 80 feet then no pattern exists and averaging cannot be used.
- Regardless of the average; no closer than 35 feet
  - Two sided averaging
  - Once sided averaging

Two Sided Averaging

- Existing principal structures in both directions within 75 feet of the ordinary high water mark.
- Both existing principal structures are located directly adjacent to the proposed principal structure.
- Both adjacent principal structures are within 250 feet of the proposed principal structure.
- The average shall not be reduced to less than 35 feet.

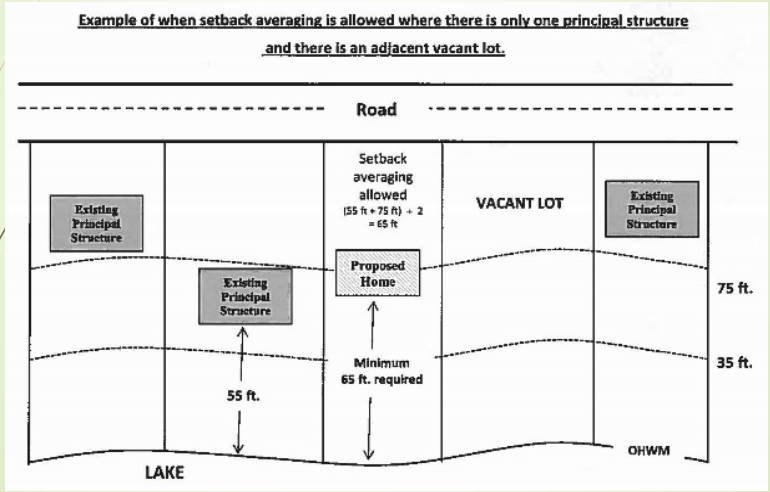
Two Sided Averaging



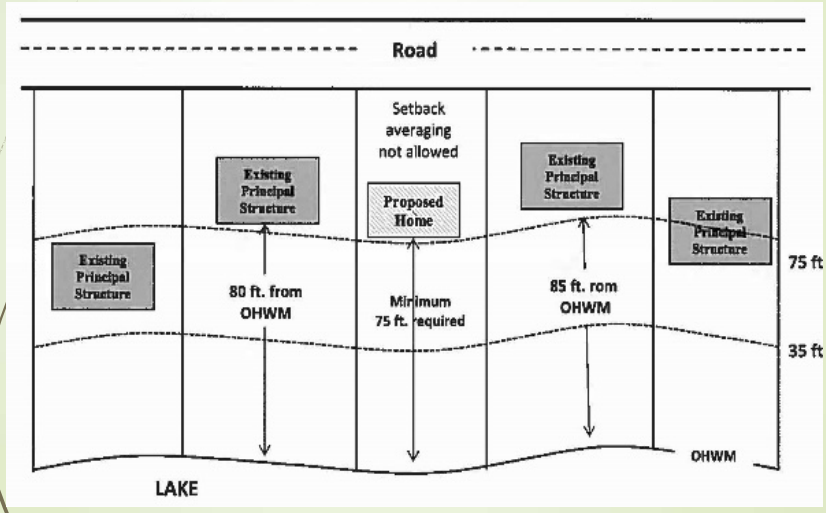
One Sided Averaging

- An existing principal structure in only one direction on an adjacent lot and the other adjacent lot is vacant.
- The setback shall be equal to the average of the adjacent existing principal structure and 75 feet.
- The existing principal structure is within 250 feet of the proposed principal structure.
- The existing principal structure is less than 75 feet from the OHWM.
- The average setback shall not be reduced to less than 35 feet.

One Sided Averaging

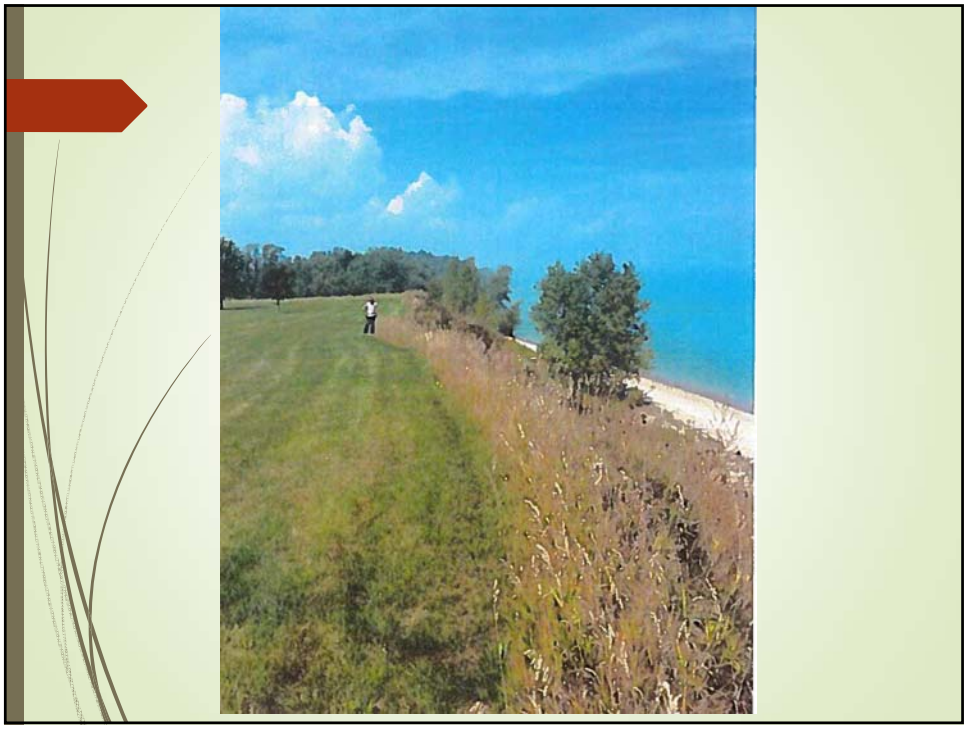


Averaging is Not Allowed



Exempt Structures

- Open structures such as gazebos, patios, decks
  - Must be detached from the principal structure.
  - Must be at least 35 feet from the OHWM.
  - Maximum floor area is 200 sq/ft.
  - Must have no sides or open or screened sides.
  - Requires mitigation plan be approved and recorded.
  - The plan must show it will preserve or establish a buffer zone covering at least 70% of the half of the shoreland setback area nearest the water. *(70% of the front 35 feet from OHWM)*




09 10 2018 12 00

Exempt Structures

- Stairway and walkways
  - Required for shoreline access.
  - Located in view corridor.
  - Maximum width is 60 inches.
  - Maximum railing height is 42 inches.
  - No canopies or roofs.
  - Landings when needed for safety shall not exceed 25 square feet.

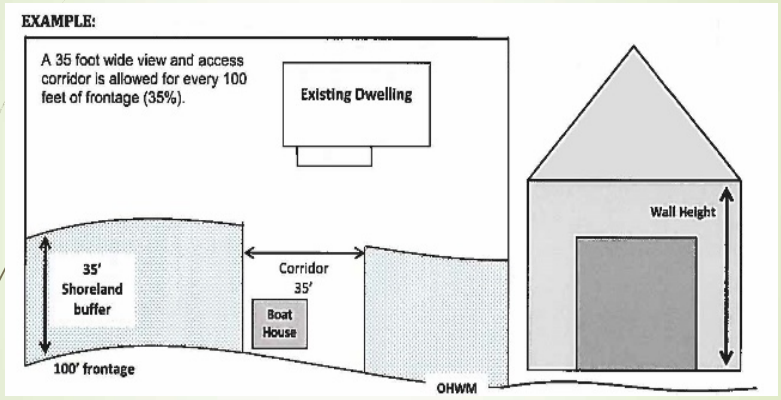
Exempt Structures

Boathouses

- Designed solely for the storage of boats and related equipment.
- Shall not extend beyond the OHWM.
- The largest door or opening shall face the water and be adequate in size to accommodate a boat from the water.
- Shall have a pitched roof of three to one or steeper.
- Shall be located entirely within the access and viewing corridor.
- Must meet impervious surface requirements.

Boathouses

- Shall not contain plumbing
- Shall not be used for human habitation
- Shall have a maximum of 2 windows not exceed 9 square feet per window.
- Maximum size of 400 sq/ft in floor area.
- Sidewalls no higher than 10 feet.
- Only one boathouse per lot.
- Existing boathouses which existed prior to the ordinance and have a flat roof may use it as a deck IF:
  - The roof has no walls or screens.
  - The roof has no railings other than those that meet DSPS standards.



Exempt Structures

- Structures such as antennas, utility lines and poles, towers, pump stations POWTS, runoff treatment devices, etc.

Lake Michigan Regulations

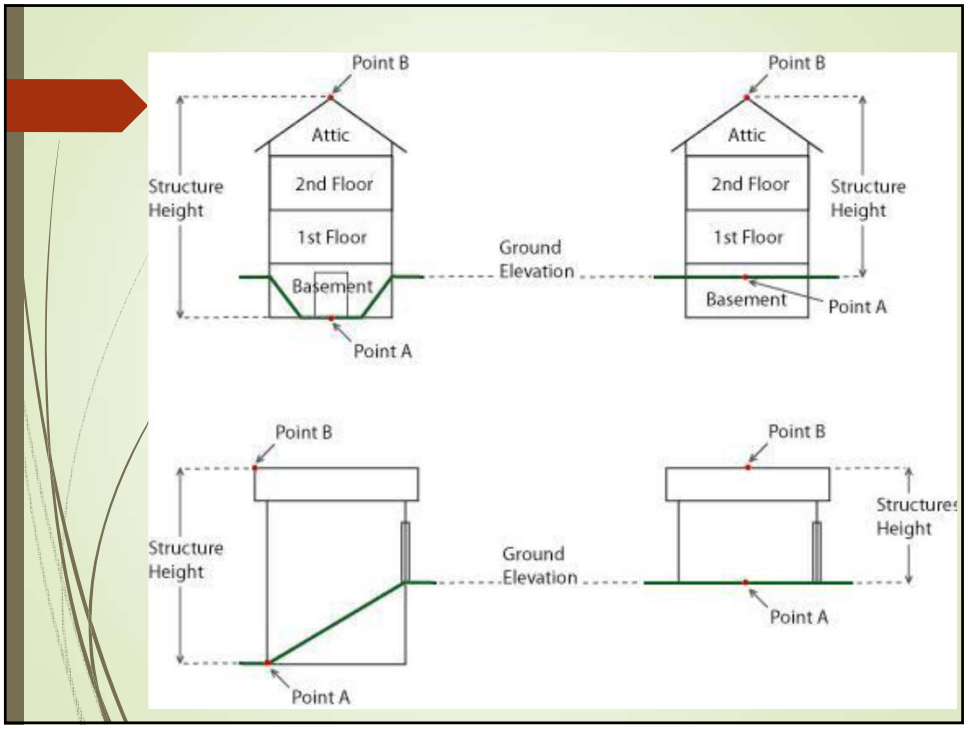
- Recession rate setback 100 feet for principal structures, 50 feet for accessory structures.
  - Minimum 75' from the OHWM (toe of the slope)
- Additional bluff setback from toe of the slope is 2 ½ times the height of the bluff plus recession rate.
  - This formula is designed to keep structures safe from bluff slumping.
- Impervious surface required within 300 feet of the OHWM.


4/11/2011


5/3/2011 8:42am

Height - Measurement

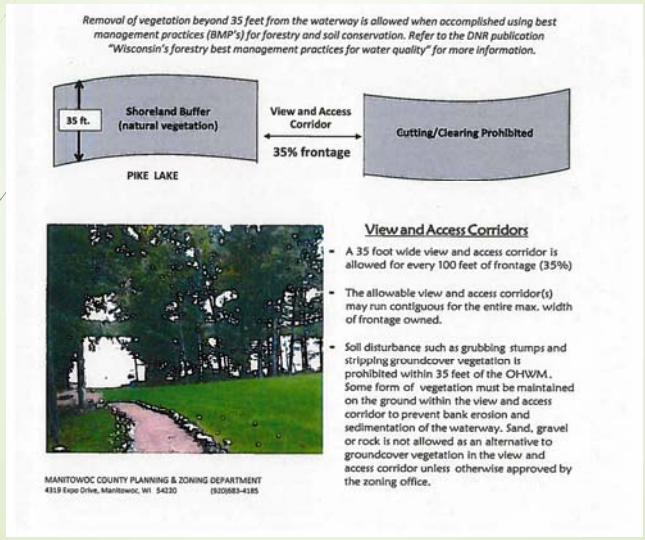
- 35’ Maximum within 75’ of water body
- Measurement is normally to roof ridge.
- Chimneys, etc. have not been typically counted in the measurement.
- Model ordinance diagrams.



Vegetative Buffers

- The area that extends from the OHWM to a minimum of 35' inland landward is designated as a vegetative buffer zone and prohibits the removal of vegetation.
  - Exceptions:
    - Viewing corridor 35' for every 100' and allowed to run contiguously.
    - Routine maintenance.
    - Forestry practices.
    - Removal of dead, diseased or exotic species.

Vegetation Removal



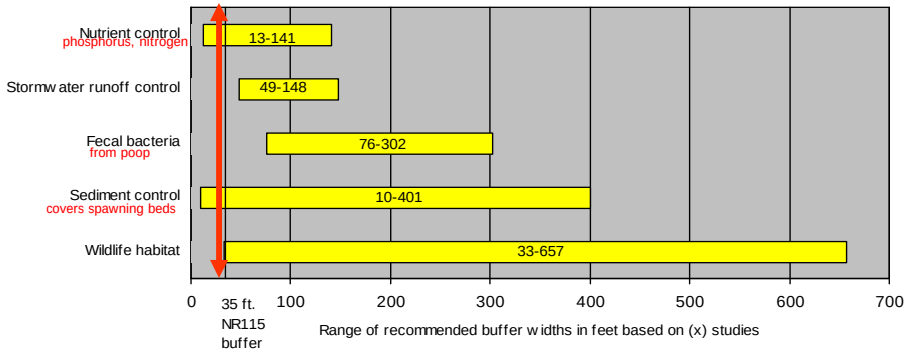
What happens when a shoreline is clear cut?

Developed site in Vermont

- Shoreline bank is destabilized, resulting in loss of land
- Soil erosion covers spawning beds, reduces fish habitat, and feeds algae growth
- Loss of shade leads to warmer water temperatures, especially in streams
- Loss of habitat for birds, frogs and other wildlife
- Loss of natural scenic beauty

What can buffers do if they're big enough?

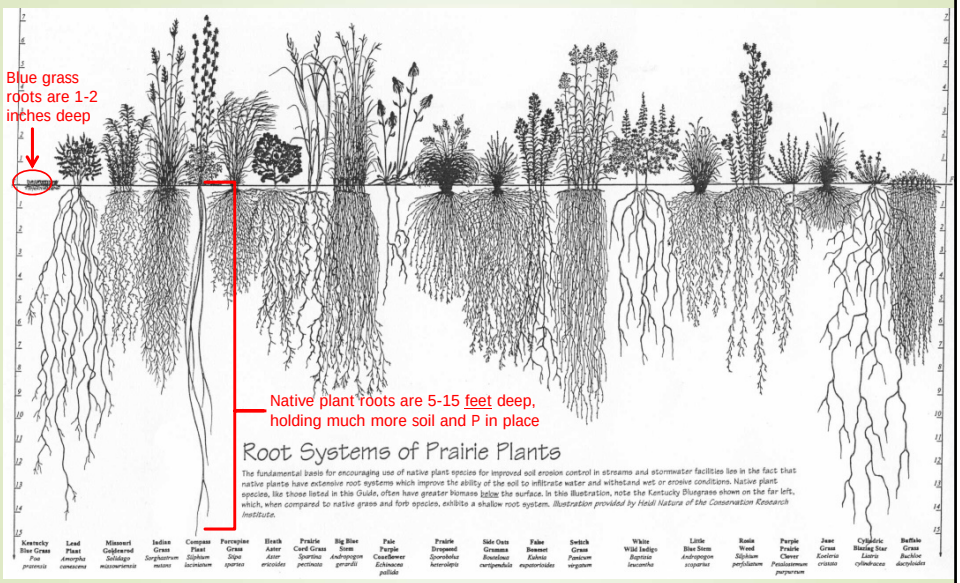
Recommended Shoreline Buffer Widths
A Research Summary



Review of 52 U.S. studies by Aquatic Resource Consultants, Seattle WA

A 35 foot deep shoreline buffer does not keep bacteria from poop out of the water. In many situations, it doesn't keep P and sediment out of the water, and isn't enough for wildlife.

Shoreline buffers



Blue grass cannot hold as much soil in place as native plants because blue grass has much shorter roots. Blue grass can lead to loss of shoreline, erosion, and sediment covering fish spawning beds.

Buffers affect birds

- Shoreline buffers provide habitat for Eagles, loons, great blue herons, wood ducks and more

- Lawns provide habitat for Canada geese

Geese avoid buffers because the buffers can conceal predators such as coyotes, foxes and raccoons

Filling and Grading

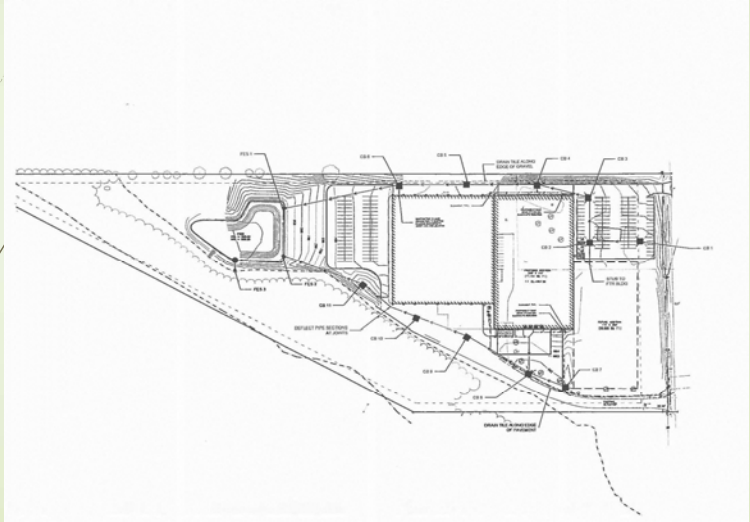
- A filling and grading permit is required within 300 feet of the OHWM and has surface drainage towards the water where there is either:
  - Filling or grading on slopes of 20% or more,
  - Filling or grading of more than 1,000 sq/ft on slopes greater than 12% and less than 20%,
  - Filling and grading of more than 2,000 sq/ft on slopes of 12% or less.

Filling and Grading

- Currently the permit requires approval from the Board of Adjustment.
  - A conditional use permit application is submitted with information showing the plan complies with the standards in section 9.40.
  - Town meeting and approval recommendation.
  - Board of Adjustment (BOA) meeting and approval.
  - If approved by the BOA then a filling and grading permit can be issued.

May alter this process if DNR approves.

Retention Ponds



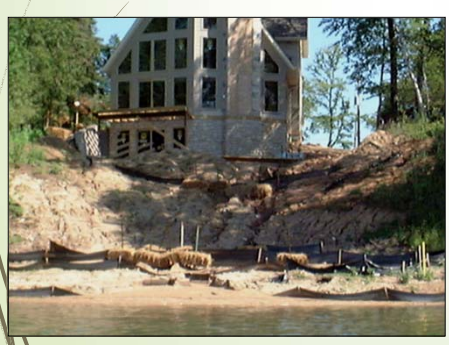
Impervious Surface

- What is an impervious surface (IS)?
- An area that releases all or a majority of the precipitation that falls on it.
- Roofs, driveways, patios, sidewalks, decks, etc.

Shoreland zoning standards protect property values

Less clear water = Lower waterfront property values

- A study of over 1200 waterfront properties in Minnesota found when water clarity went down by 3 feet, waterfront property values around these lakes went down by tens of thousands to millions of dollars

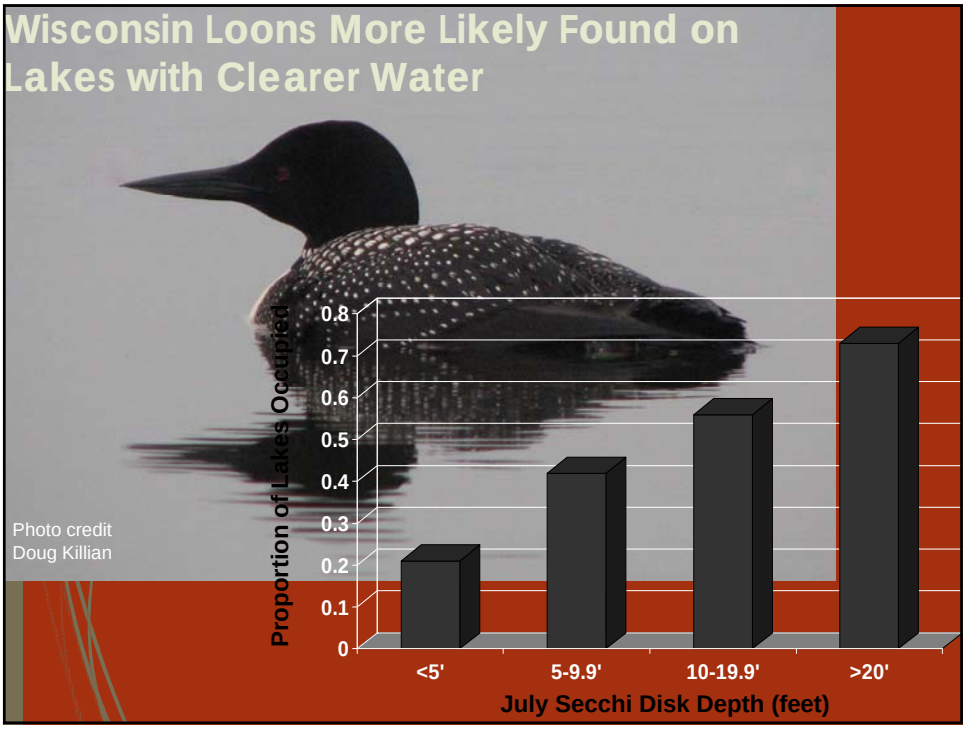


What shoreland practices make water less clear?

- Soil erosion
- Rooftops and pavement close to the water cause runoff that carries pollutants to waterway
- No shoreline buffer to filter runoff

See **Protecting Your Waterfront Investment** at uwsp.edu/cnr-ap/clue/Documents/Water/ShorelandInvestment2013.pdf

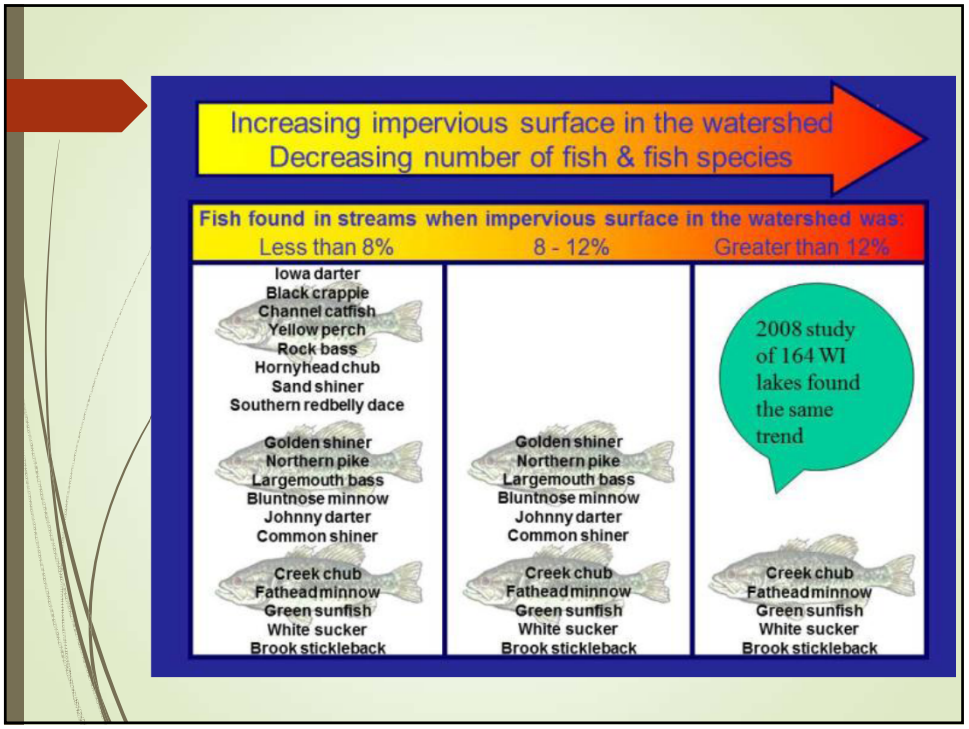
Wisconsin Loons More Likely Found on Lakes with Clearer Water



More Impervious Surface = Less Fish

- **More sediments** and algae growth make it difficult for some predator species that hunt by sight to find their food
- **More sediments** cover spawning beds of fish such as walleye and smallmouth bass, depriving eggs of oxygen

- **More runoff** leads to warmer waters that eliminate fish like northern pike & trout



Impervious Surface Standards

- For riparian lots, or non-riparian lots that are entirely within 300 feet of the OHWM.
  - Up to 15% impervious.
  - Between 15% - 30% with mitigation or treatment.
  - Greater than 30% must treat runoff.
- Calculated by total Impervious surfaces within 300 feet of OHWM divided by entire lot area.

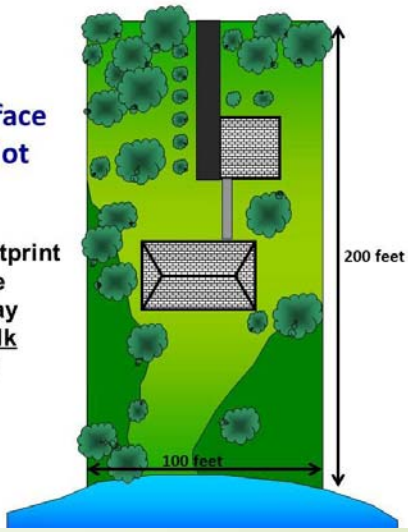
Impervious Surface Standards

- Keep the Impervious Surfaces you have.
- Exclude IS that treated by stormwater ponds, rain gardens or other engineered systems.

Impervious Surfaces

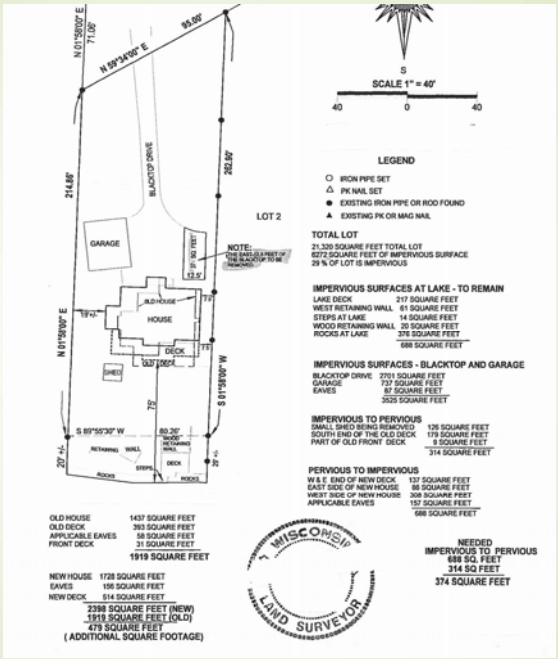
15% impervious surface on a 20,000 sq. ft. lot

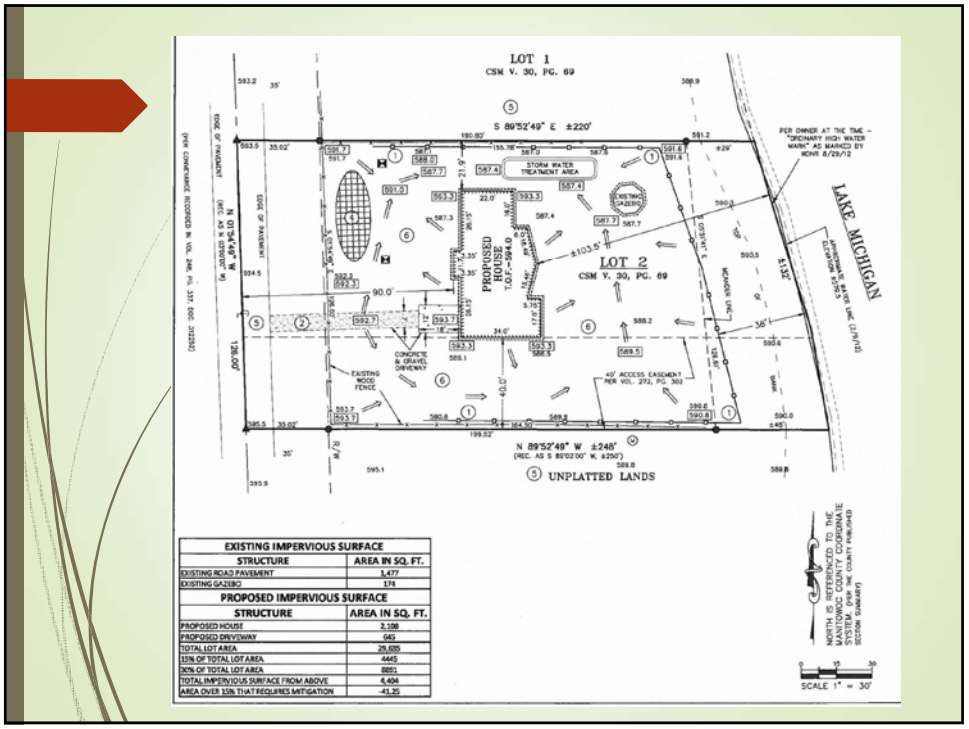
1500 sq. ft. house footprint
740 sq. ft. garage
660 sq. ft. driveway
100 sq. ft. sidewalk
3000 sq. ft. total



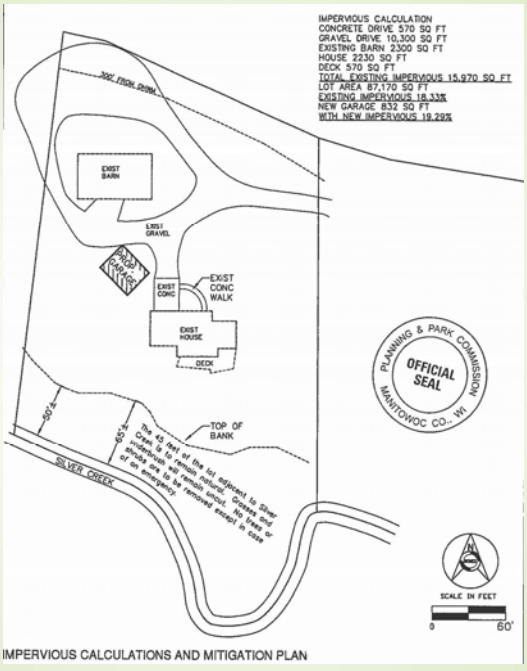
Impervious Surface Calculations

- We need to see the total amount of pervious surface for the entire lot.
- Total amount of existing impervious surface within 300 feet of the OHWM.
- Total amount of proposed impervious surface within 300 feet of the OHWM.
  - Typically completed by engineer, surveyor, or other licensed contractor.
  - Required plan.





EXISTING IMPERVIOUS SURFACE	
STRUCTURE	AREA IN SQ. FT.
EXISTING ROAD PAVEMENT	1,477
EXISTING GAZEBO	176
PROPOSED IMPERVIOUS SURFACE	
STRUCTURE	AREA IN SQ. FT.
PROPOSED HOUSE	2,108
PROPOSED DRIVEWAY	645
TOTAL LOT AREA	29,635
15% OF TOTAL LOT AREA	4445
30% OF TOTAL LOT AREA	8891
TOTAL IMPERVIOUS SURFACE FROM ABOVE	6,404
AREA OVER 15% THAT REQUIRES MITIGATION	-41.25



IMPERVIOUS CALCULATIONS AND MITIGATION PLAN

Impervious Surface for Highly Developed Areas

- NR 115 section 9.4
  - Either identified as an Urbanized Area or Cluster in the 2010 US Census or a commercial, industrial, or business land use as of January 31, 2013

    OR
  - After conducting a hearing and receiving approval from the WDNR the county has mapped additional areas of highly developed shorelines that are at least 500 feet in length and meet one of the following criteria:

Impervious Surface for Highly Developed Areas

- Required Criteria
  - The majority of the lots are developed with more than 30% of impervious surface area.
  - Located on a lake served by a sewerage system as defined in NR 110.03(30) Wis. Adm. Code.
  - The majority of the lots contain less than 20,000 sq/ft in area.
- Lake Association or Town would need to complete this information and prove it to the WDNR and then a separate hearing held for approval.

Non-Conforming Structures

- A lawfully placed structure that does not comply with the required setback from the ordinary high water mark as identified in NR 115.05(1)(b).

Nonconforming Structures - activities allowed

- A nonconforming structure may be maintained, repaired, replaced, restored, rebuilt or remodeled if the activity does not expand the footprint.
  - Includes principal and accessory structures.

Nonconforming structures – activities allowed cont.

- A nonconforming structure may be expanded vertically within setbacks.
  - 2nd story to a residence or garage.
  - Changing roof pitch and side wall height on shed.
- Max. 35' height.
- Principal and accessory structures.
- Exact same footprint as first floor.
- No impervious surface requirements.

Vertical Expansion

Nonconforming structures – activities allowed cont.

- A nonconforming principal structure may be expanded laterally within setbacks.
  - The use of the structure has not been discontinued for 12 months or more as a nonconforming use.
  - No closer than existing principal structure to OHWM.
  - The existing principal structure is at least 35 feet from the OHWM.
  - 200 square foot limit over the life of the structure.
  - A mitigation plan must be submitted, approved and recorded on the deed.

Relocation of nonconforming principal structures

- The use has not been discontinued for a period of 12 months or more.
- The existing structure is at least 35 feet from the OHWM.
- No portion of the relocated structure is any closer to the OHWM than the closes point of the existing principal structure.
- Manitowoc County determines there's no other location available on the property to build that would comply.
- A mitigation plan is submitted, approved and recorded.

Mitigation

"balancing measures that are designed, implemented and function to restore natural functions and values that are otherwise lost through development and human activities."

Shoreland Mitigation

- Mitigation is triggered by:
  - Increasing impervious surfaces over 15%.
  - Expanding nonconforming structures.

Shoreland Mitigation Examples

- Rain Gardens.
- Update Septic System.
- Removal of Non-Conforming Structures.
- Buffer Restoration.
- Wetland Restoration.
- Reduce visual and lighting impacts.

Shoreland Mitigation Plans

- Based on a point system. Owners must obtain 3 points to obtain an approved mitigation plan.
- Affidavit approving of the plan must be completed and notarized.
- Record affidavit on main property deed not in the misc. column.
- Failure to implement the plan would result in removal of the structure.
- Sometimes it can be as simple as stating: "The front 35' landward of the OHWM will remain wooded and in it's natural state. No tree, shrub, or vegetation removal of any kind will occur within this area except to remove damaged trees for safety purposes.

Before Mitigation

After Mitigation

Treating Water Runoff for Mitigation

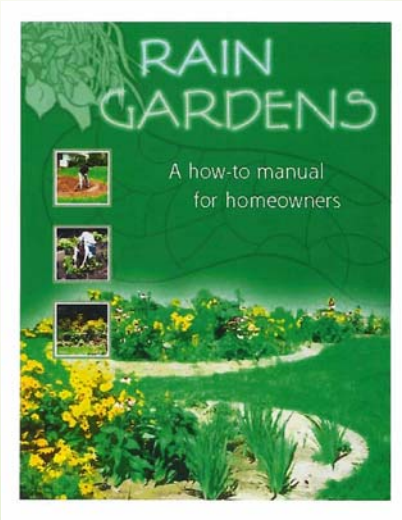
- Rain garden.
- Retention pond.
- Elevation data showing runoff will be contained on parcel.
- Must include an enforceable obligation on the owner to maintain the treatment system.
- Shall be recorded on the property deed.

Rain Gardens

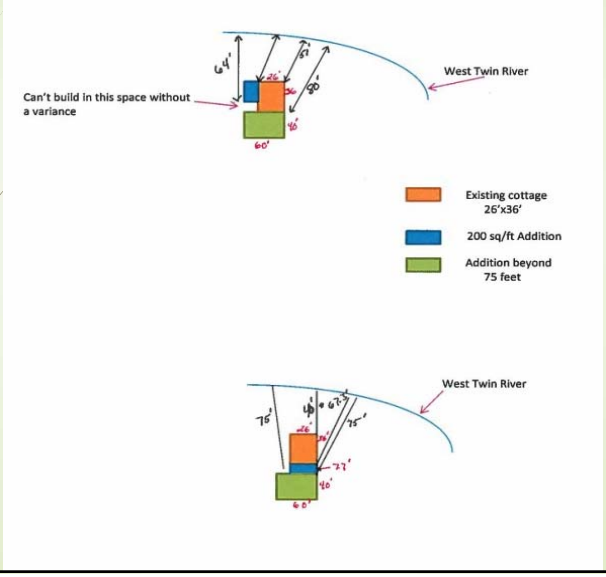
- Licensed professional or someone agreeable to the department.
- Can be any size but usually will be dependent on:
  - type of soils.
  - depth of garden.
  - amount of surface area directed to the garden.
  - based on 24 hour average annual rain event of 2.11 inches per square foot.

WDNR Rain Garden Guide

- https://dnr.wi.gov/topic/Stormwater/documents/RgManual.pdf



Combining Regulations



Pervious Pavers

- Normally only a percentage of the paver is pervious.
- Based on Manufacturer's specifications.
- A licensed professional will calculate the amount of impervious remaining based on the annual 24 hour rain event.
- May need to have a reduced rain garden to catch the remaining runoff.

Retaining Walls and Fences

- Permits required.
- Same footprint and same location no impervious surface is required.
- New, longer, or wider walls or fence will require impervious surface calculations, and also setback from OHWM or a variance is required.
- Same size structure could be moved to a better location on the property and not require impervious surface calculations; however, a variance would be required because it's not in the same footprint location as the old wall/fence.

Vegetative Retaining Wall

One way that to manage the issue without a variance is to stabilize the slope naturally with a vegetated system. One example is the Envirolok Vegetated Retaining Wall System from Agrecol which is a green solution for erosion control and streambank and shoreline stabilization.

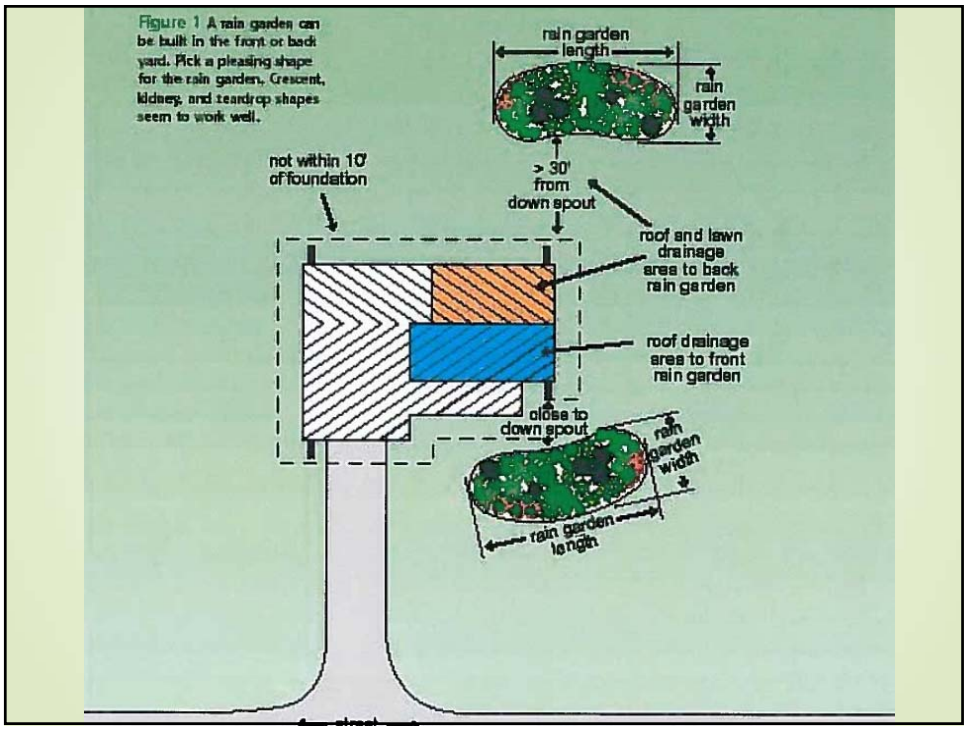
Envirolok vegetated walls are built by weaving rows of soil-filled geotextile bags together into a cohesive barrier and locking them in place with spikes. Then, the wall face is planted with native plants, sod and/or seed. Within weeks, plants grow through the bags and develop extensive root systems that lock into the native soil to form an ecologically sound vegetated erosion control system with permanent structural strength.

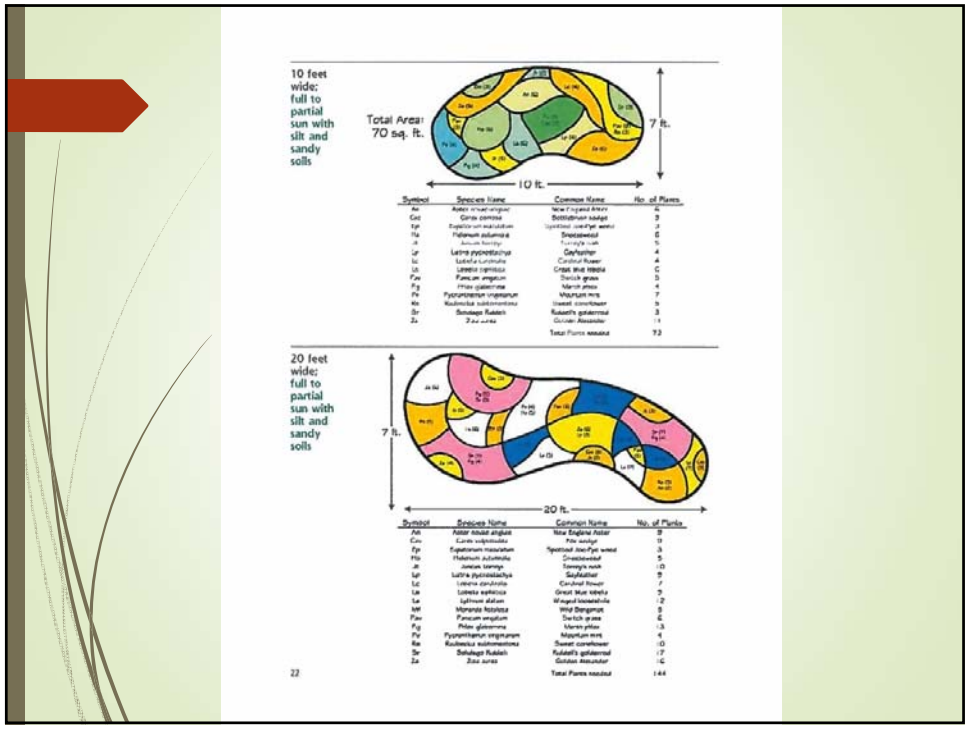
A vegetated wall:

- Grows deep-rooted perennial vegetation that locks, renews and improves the structure year after year
- Does not interfere with hydrological processes; retains oxygen and moisture
- Provides habitat that's safe for amphibious and aquatic species
- Moves with freeze/thaw cycles and absorbs sound

Below is sample ordinance language from a county ordinance that addresses the issue to start with:

"Any activity within 75 feet of OHWM, which involves removal of, or placing of fill, soil, or structures for the purpose of erosion control or run off into a waterbody shall use environmentally friendly products and bio-engineered practices accepted by the County Zoning Office. Accompanying the site plan shall be a complete list of all products, and species of trees, shrubs and ground cover."





Access Improvements

- Cedar Lake
  - Launch Pier
  - Driveway Paving
  - Lighting
- Tuma Lake
  - Launch Pier
  - Boat Ramp
  - Driveway Paving
- Silver Lake
  - Driveway Paving
- Long Lake
  - Bathroom
  - Driveway Paving

Questions?

Pete Tarnowski
Reed Gaedtke

(920)683-4185
petetarnowski@co.manitowoc.wi.us
reedgaedtke@co.manitowoc.wi.us