



# Waukesha County Shoreland Zoning and Erosion Control Workshop

## Certification of Compliance with Stormwater Standards for New Land Divisions

1/13/17

Waukesha County Admin. Center

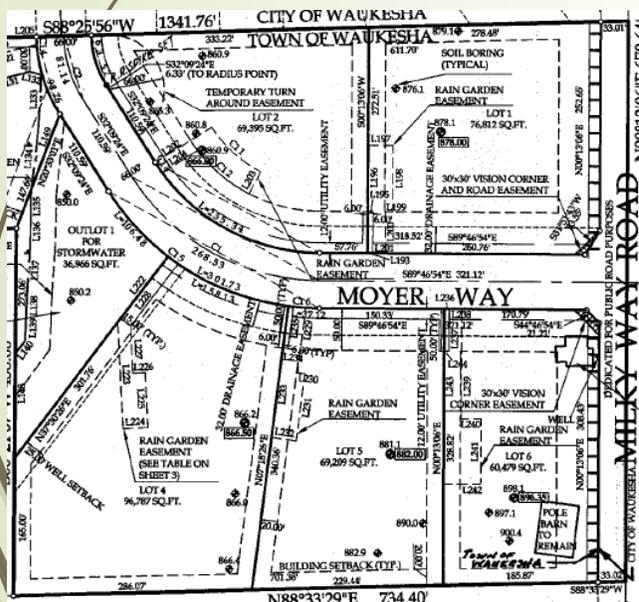
Alan Barrows, Sr. Conservation Specialist  
Waukesha County Department of Parks & Land Use – Land Resources Division





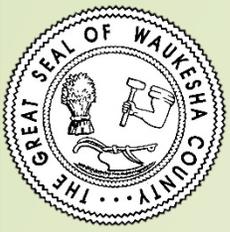
# When is a certification needed

- Subdivision plats
- .5 acres of new impervious surfaces
- New public or private roads
- By request from Town or County Zoning Administrators



05.27.2015

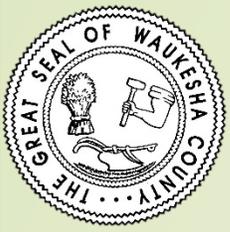




# What is reviewed for certification?

- Location and size of drainage easement and outlots
- Setbacks from wells, structures, steep slopes & road right-of-ways;
- Location of access drives and easements
- Utility easements
- Stormwater maintenance agreement
- Compliance with site drainage





# 1. Drainage Easements

- Preserve stormwater flow paths and stormwater BMP locations
- Prevents activities that obstruct flows
- Specifies maintenance responsibility



**Sample Language:** “All lands within areas labeled “drainage easement” are reserved for stormwater collection, conveyance, treatment or infiltration. No buildings or other structures are allowed in these areas. No grading or filling is allowed in these areas that may interrupt stormwater flows in any way. The Maintenance Agreement may contain specific maintenance requirements for these areas. The [municipality name], Waukesha County or their designee are authorized access in these areas for purposes of inspecting the stormwater management practices or enforcing the terms of Maintenance Agreement.





## 2. Outlots

- Outlot ownership shall be the same as those responsible for maintenance;
- Proportional undividable interest for all properties in control of the applicant and drain to the BMP;
- Can be combined ownership for sites with more than one BMP.

A sample outlot statement is available for use with new land divisions





## 3. Stormwater Basin Setbacks

- Wells (NR 812 WI Admin Code)
  - 100 feet for infiltration basins, 25 feet to private wells for wet ponds & rain gardens, 400 feet from community wells
- Structures (DNR Technical Standards)
  - Buildings shall not be hydraulically connected to infiltration basins
- Steep Slopes (DNR Technical Standards)
  - 200 foot setback from 20% slopes
- Road Right-of-Way
  - Keep embankments and spillways from the Right of Way





## 4. Stormwater Maintenance Agreement

- Recorded as a deed restriction
- Before construction begins:
  - Basin locations
  - Maintenance plan
- After construction is done:
  - As-built plan views and cross-sections
  - Design summaries
  - Verification letter
  - Termination letter
    - Transfers maintenance responsibility from developer to owner

**Template agreements are available upon request**





# 5. Stormwater Access Drives & Easements

Minimum 15 feet wide



2006 – Looking Southwest



2017 – Looking Northeast





## 6. Site Drainage – Grading

- Positive flow away from all buildings, roads, driveways and septic systems;
- Minimize adverse impacts to adjacent properties.

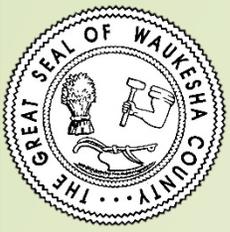




# Site Drainage – Streets

- Prevent concentrated flows from crossing traffic lanes;
- Max flow depth at the road centerline is 6" for the 100 year storm;





# Site Drainage – Bridges and Cross-Culverts

- Comply with applicable design standards/regs.
- Facilitate fish passage;
- Prevent increased flooding and channel erosion;
- Preserve upstream runoff storage areas or provide compensatory storage;





# Site Drainage – Subsurface

- Basement floor surfaces at least 1-foot above high groundwater elevation;
- Avoid hydric soils;
- Report & repair drain tiles encountered during constructions;
- No discharge of groundwater from tile lines or sump pumps onto adjacent land without approval;





## Site Drainage – Open Channels

- Carry peak flows from a 10-year storm for planned land use for entire drainage area;
- Side slopes 3:1 or flatter;
- For drainage areas more than 130 acres, design to carry peak flows from a 25-year storm;

## Site Drainage – Storm Sewers

- Design for applicable community technical standards





# Site Drainage – Structure Protection and Safety

- 2-foot vertical setback between maximum water elevation in a 100-year storm to lowest opening;
- 50-foot horizontal setback between the ponding limits in a 100-year storm and the structure;





# Building Setbacks – Too Close for Comfort?





# Internally Drained Areas

Rain on Frozen Ground



Ponds and "internally drained" kettles  
(ponding areas not regulated by zoning)





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# Basement Wetness and Flooding Prevention Standards

Paul Farrow  
County Executive



Dale R. Shaver  
Director

## Basement Wetness and Flooding Prevention Standards *Waukesha County Stormwater Management and Erosion Control Ordinance* Land Resources Division (LRD)

### Background:

It has become commonplace for residential homes to construct walkout basements and finish lower levels as an extension to their living space. As a result, wetness in or near these areas can cause significant property damage and could lead to other safety or health issues. Let's face it - nobody wants a wet basement. Wetness can occur due to groundwater seepage, surface water runoff, or a combination of both. Most of these problems are preventable, but to be effective, must be addressed during site planning.

To address these concerns, the 2005 update to the Waukesha County Stormwater Management and Erosion Control Ordinance (and many other local ordinances) contains four specific design standards that must be met for any buildings designed for human occupation. These standards apply to all sites that require a Stormwater Permit where a basement is proposed. Since deed restrictions may be involved, these issues *must be addressed at the time of land division*. The standards are briefly summarized below.

### Summarized Design Standards (see ordinance for details)

#### Surface Water (see page 2):

1. A minimum 2-foot vertical separation between the lowest exposed building surface and the peak water surface elevation produced by the 100-year, 24-hour design storm; and
2. A minimum 50-foot horizontal setback from the 100-year design storm elevation.

#### Groundwater (see pages 3-6):

3. A minimum 1-foot vertical separation between highest groundwater table and the basement floor surface; and
4. Avoid hydric (very poorly drained) soils for basement construction as much as possible.

This document provides more information on how the LRD enforces these provisions and what the permit applicant needs to provide to the LRD to demonstrate compliance. Two procedures follow. The first one explains how to comply with the first two standards relating to surface water runoff in internally drained areas. The second explains how to comply with the third and fourth standards relating to basement separation from highest groundwater table.





# Checklist 4

## Checklist #4 Requirements for New Land Divisions with a Stormwater Mgt. Plan ("Certification of Compliance")

The Land Resources Division must certify compliance with county stormwater ordinance requirements before any new plat or CSM can be approved by the county Planning and Zoning Division. This "certification of compliance" helps ensure that all stormwater outlots, easements, setbacks, maintenance agreements and associated covenants and restrictions are properly documented prior to recording the land division through the Waukesha County Register of Deeds.

### To obtain Certification of Compliance, provide the following applicable information on the plat or CSM:

- \_\_\_ 1. Delineation and dimensions of well setbacks in accordance with ch. NR 811 and 812 Wis. Admin. Code and applicable DNR technical standards.
- \_\_\_ 2. Delineation and dimensions of outlots set aside for stormwater management (when a BMP treats storm water from more than one lot).
- \_\_\_ 3. Delineation and dimensions of existing and proposed drainage easements.
- \_\_\_ 4. Delineation and dimensions of existing and proposed access lanes for future maintenance and inspection of storm water BMPs (minimum width is 15 feet).
- \_\_\_ 5. Delineation and dimensions of utility easements.
- \_\_\_ 6. Delineation, dimensions and descriptive notes for protective areas.
- \_\_\_ 7. **Building restrictions:** For buildings designed for human occupation, the plat or CSM may need to demonstrate compliance with the following building restrictions. Published county procedures must be followed to demonstrate compliance. The first two apply to any area that temporarily or permanently stores stormwater at a depth greater than one foot.
  - a. Minimum 2-foot vertical separation between the lowest elevation of the structure that is exposed to the ground surface and the maximum water surface elevation produced by the 100-year, 24-hour design storm (can be shown as an elevation on the lot).
  - b. Minimum 50-foot horizontal setback between the building and the closest edge of the water at the elevation produced by the 100-year, 24-hour design storm.  
*Note: For internally drained sites, the maximum water surface elevation for the 100-year, 24-hour storm for a. and b. above must be determined assuming frozen conditions.*
  - c. Minimum 1-foot vertical separation between basement floors and highest groundwater table elevation.  
*Note: Basement construction must avoid hydric soils (very poorly drained) as much as possible.*
- \_\_\_ 8. Language describing outlet ownership, BMP maintenance responsibilities, easements, setbacks and other applicable covenants or restrictions relating to the above noted items.
  - a. Sample BMP maintenance agreements are available; language is provided below.

### Sample Outlet Statement

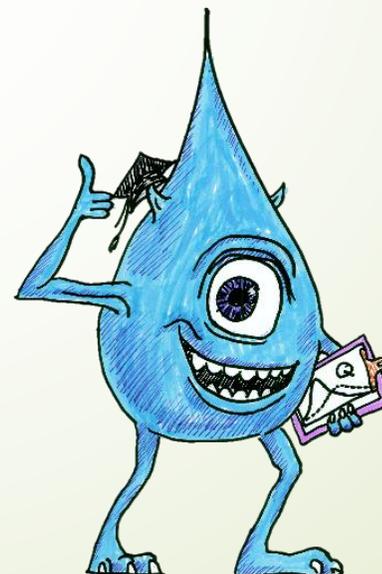
"The titleholders of lots 1 through 22 of the Highland Preserve Subdivision shall each hold 1/22 undivided and nontransferable interest in Outlet 1, where the stormwater management practices are located. There are one or more separate documents recorded on the property title through the Waukesha County Register of Deeds entitled "Stormwater Management Practice Maintenance Agreement" ("Maintenance Agreement") that apply to Outlet 1. The maintenance agreement subjects this subdivision plat, and all lot owners therein, to covenants, conditions and restrictions necessary to ensure the long-term maintenance of the stormwater management practice. The agreement also outlines





# Certification Process

- Same as the preliminary stormwater plan review;
- LRD collects a fee prior to certification review;
- 10 working day timeline for review;
- Outcome: Either a completed certification checklist or a review letter





# Certification of Compliance Checklist

## Certification of Compliance

### Waukesha County Stormwater Management and Erosion Control Ordinance (Chapter 14, Article VIII – Waukesha County Code of Ordinances)

**Purpose:** This form is used for new land developments to certify compliance with the above noted ordinance before a plat or CSM is recorded at the County Register of Deeds. It is designed to prevent site plan conflicts relating to stormwater.

**Directions:** Before signing the plat/CSM, the Town or county planner completes items in shaded box below and submits to Alan Barrows in Land Resources (address in footer) along with the new plat/CSM. Land Resources will complete the form within 10 working days and return it to the sender, indicating compliance status.

(Check One):  Final Plat  Certified Survey Map  Condo Plat  
Project Name: \_\_\_\_\_  
Project Location: \_\_\_\_\_ ¼, Section \_\_\_\_\_, Township of \_\_\_\_\_  
Applicant Name: \_\_\_\_\_  
Latest Plat/CSM Revision Date: \_\_\_\_\_ Drafter: \_\_\_\_\_  
Name of person submitting form: \_\_\_\_\_  
Date submitted: \_\_\_\_\_

Date received by Land Resources: \_\_\_\_\_

The following items have been reviewed by Land Resources to determine compliance with the county Stormwater Management and Erosion Control Ordinance. ( 0 = Not Applicable, Y = Complies, N = Does not comply)

1. Location and size of drainage easements, outlots and other areas set aside for stormwater management, and the associated language describing use restrictions (i.e. structures out of 100-year flows, outlots for BMPs serving multiple lots, equal undividable interest, grading/filling restrictions, etc.);  
Comments: \_\_\_\_\_
2. Setback requirements from public and private wells (i.e. 100-400 feet/infiltration basins, 25 feet wet detention, etc.), structures (50 feet), steep slopes (200 feet - infiltration basins), road right-of-ways and other items related to the location of stormwater management facilities;  
Comments: \_\_\_\_\_

Land Resources Division • 515 W. Moreland Blvd. • Room AC 260 • Waukesha, Wisconsin 53188-3868  
Phone: (262) 896-8300 Non-Metro: 1-800-567-2366 • Fax: (262) 896-8298

3/23/16

3. Location of access drives (minimum 15 feet wide) and associated easements and use restrictions to ensure adequate access to stormwater management facilities for future maintenance;  
Comments: \_\_\_\_\_
4. Utility easements as they may affect the grading and erosion control plans;  
Comments: \_\_\_\_\_
5. Compliance with site drainage standards and associated use restrictions (i.e. minimum basement elevations for 1 foot vertical separation to groundwater, minimum elevations for building openings for 2-foot vertical separation to stormwater, etc.).  
Comments: \_\_\_\_\_
6. The final maintenance agreement provisions for all stormwater BMP's (ownership of outlots, BMP design drawings, maintenance plan, inspection authority, special charges, agreement modifications, etc.)  
Comments: \_\_\_\_\_
7. Other comments or items that the LRD has determined are necessary to achieve compliance with the county ordinance.  
Comments: \_\_\_\_\_

The above review comments are based on a stormwater management plan prepared by:  
Engineer's Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Latest revision date: \_\_\_\_\_

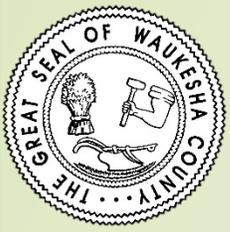
LRD Staff Name: \_\_\_\_\_ Date: \_\_\_\_\_

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**0 = Not Applicable, Y = Complies, N = Does not comply**





Thank you

Any Questions?

Please fill out the survey

