

EROSION CONTROL AND EXTREME WEATHER EVENTS



Types of Extreme Weather Events in Wisconsin

- Blizzards, Snow, Deep Freeze and Thaw Cycles
- Summer Droughts
- Frequent or Continuous Rain Events
- Strong/Severe Storms
- Flash Floods

Blizzards, Snow, Deep Freeze and Thaw Cycles

- Cause project delays
- Difficult to maintain BMP's covered by snow
- Frozen ground leads to a significant amount of runoff
- Soils expand, contract, and break apart soils
- Previously restored turf or stabilized areas get damaged
- Requires Winterization Planning

Summer Droughts

- Inhibits the growth of vegetation and seed germination
- Temporary and young vegetation dies off
- Soil structure degrades
- Reduced absorption when intense storms follow
- Wind erosion is prevalent
- Exposed clay liners begin to crack in ponds/basins

Frequent or Continuous Rain Events

- Delays in project
- Saturated soils will decrease infiltration rates
- Increased run-off
- Loss of seed, top-soil, and nutrients
- Increase maintenance of EC/SC measures and Inspections

Strong/Severe Storms

- Soil structure degrades
- Major washouts of soils occur, Rills and gullies form
- Heavy sediment loads leave the site
- Slope and berm failures occur
- EC/SC measures are overwhelmed and fail
- Costly repairs, Notice of Violations and fines

Flash Floods

- Soil structure degrades, Major washouts occur
- Newly established root systems are destroyed
- Contamination of soils from high volume of water entering a site
- Environmental hazards, Safety concerns
- Floating debris and material may enter or leave a site
- Clean up cost and time loss, Insurance claims

August 9 and 10th, 2025



Notable Events in Wisconsin

- 2011 Groundhog Day Blizzard (50+ mph winds with 16"+ of snow), 2026 Blizzard Elsa (50+ mph winds with 24"+ of snow)
- 2012 "Extreme Drought" (Level D3)
- 2016, 2017, 2018, and 2019 Wettest Years on Record (40"+ of precipitation)
- 2008, 2017, and 2025 Flash Floods (up to 3" to 4" of rain in less than 24 hours)

June 27th, 2017 Weekly Inspection

name of Permittee: XXXXX		Construction Site ID No.: XXXXX	
Construction Site Name (Project): XXXXX			
Exact place of erosion/sediment control inspected	Type of erosion/sediment control and its observed condition	Description of any necessary maintenance or repair to erosion/sediment control, including anticipated date of completion	
1. North and south sediment basins. See item #1 in photos below.	Out of sequence- Sediment basins are not complete. The primary and secondary outlets are not installed. Sediment basins are not stabilized.	Complete construction of the sediment basins prior to land disturbing activities as per Construction Schedule #4 found on plan sheet C001. Follow plan details and DNR Technical Standard 1064. Note- Grading of the adjacent cul-de-sac and roads were occurring at the time of inspection.	



June 30th, 2017 Rain Event



July 7th, 2017 Rain Event



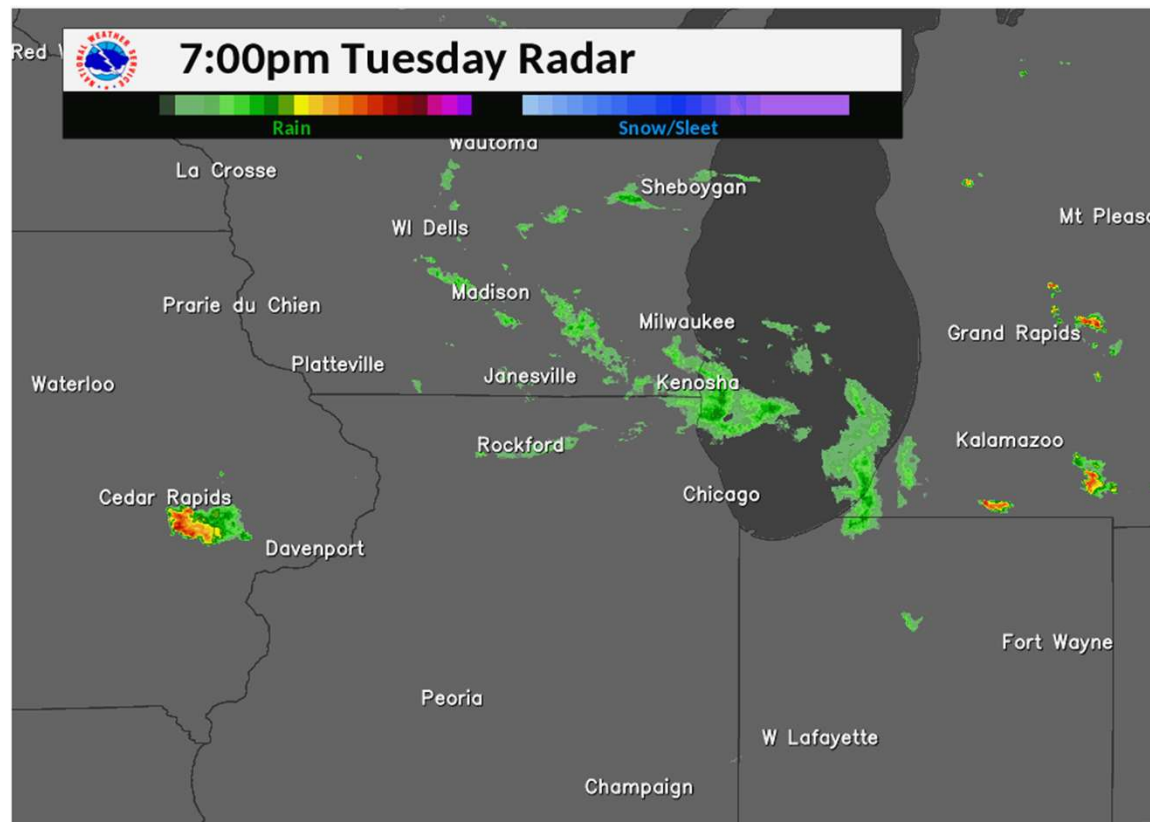
July 10th, 2017 Rain Event



BASIN CONSTRUCTION NOTES:

1. BASIN TO BE OVER-EXCAVATED 4 FEET. THIS AREA IS TO BE USED AS A SEDIMENT CONTROL DEVICE DURING CONSTRUCTION. CONTRACTOR TO STORE APPROPRIATE MATERIAL ON-SITE TO BE USED TO RESTORE OVER-EXCAVATED AREA (MATERIAL MUST BE PERMEABLE TO BE APPROPRIATE). IF MATERIAL IS NOT APPROPRIATE, OR NOT ENOUGH IS FOUND ON-SITE, ADDITIONAL MATERIAL WILL NEED TO BE IMPORTED.
2. BASIN TO BE RESTORED USING RUBBER TIRED EQUIPMENT ONLY. FILL OVER-EXCAVATED AREA ONLY WITH MATERIALS THAT MAINTAIN THE GROUND'S NATURAL INFILTRATION CAPACITY. INSTALL COMPOST MATERIAL ON TOP OF FILLED AREA AS NOTED BELOW.

July 11th-12th Severe Storms Hit Wisconsin



Local Headlines

WISCONSIN

National Guard members to help in flooding cleanup as Fox River crests overnight

Jesse Garza and Jordyn Noennig Milwaukee Journal Sentinel

July 12, 2017 | Updated July 13, 2017, 9:19 a.m. CT

Gov. Scott Walker declared a state of emergency and called up the National Guard to assist residents in parts of Racine, Kenosha and Walworth counties in dealing with flooding after yesterday's historic rains.

Significant flooding at City Hall in Waukesha following heavy rainfall

Published July 12, 2017 6:59pm CDT | FOX 6 Now Milwaukee | [↗](#)

MILWAUKEE COUNTY

Wisconsin records wettest year on record through July



Meg Jones

Milwaukee Journal Sentinel

Aug. 8, 2017 | Updated Aug. 9, 2017, 9:22 a.m. CT

If it seems like umbrellas have worked overtime recently, it's official - Wisconsin recorded its wettest year through July.

The average precipitation in the state was 25.25 inches from Jan. 1 through July 31 - that's 7.14 inches above average. [Precipitation totals](#) from numerous reporting stations around the state were averaged together to come up with the 25-inch number.



AUTO, ENVIRONMENT, FLOODING, GOVERNOR, POLITICS, RAIN, TORNADO, TRANSPORTATION, WATERS, WEATHER

Police Chief: Flooding In Burlington Is Unprecedented

Walker, Ryan Tour Flood Damage Thursday In Burlington

JULY 12, 2017

July 12th, 2017 City of Burlington



July 12th, 2017 After the Storms



July 12th, 2017 After the Storms



July 12th, 2017 After the Storms



July 12th, 2017 After the Storms



July 20th, 2017



Being Proactive = Being Prepared

- Are the site sequence, plan notes and plan details being followed?
- Are soil disturbances minimal?
- Does site run-off get properly diverted and treated (completed swales, sediment traps and basins)?
- Are temporary stabilization practices being implemented?
- Is this site ready for an extreme weather event?



Questions?



Thank You!



Mark Bruns, CISEC
Erosion Control
Specialist

■ Please visit our web site
<https://www.ruekertmielke.com>