

Rain Gardens

A Brief Overview

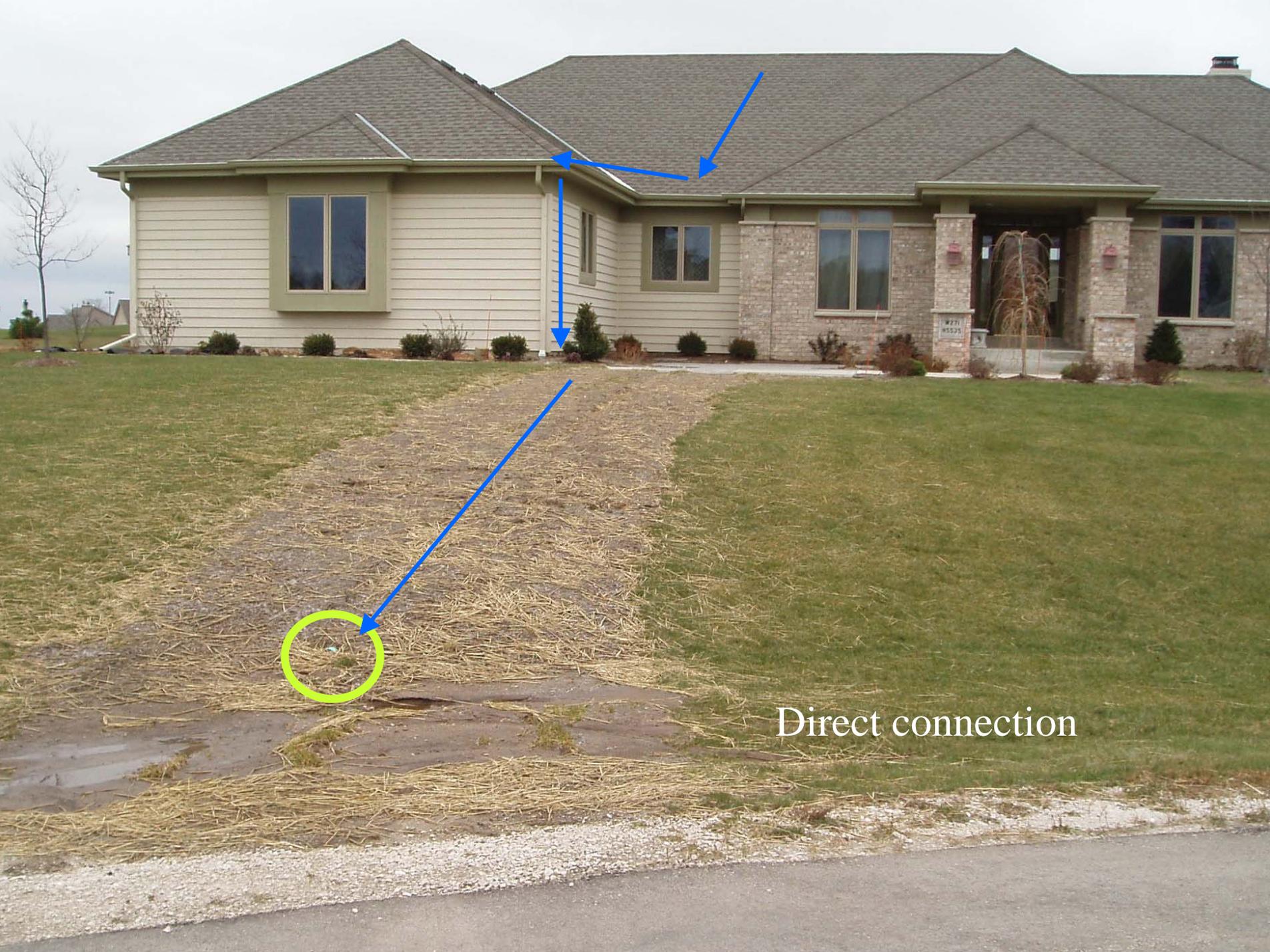
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Infiltration Practices Workshop

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Presentation Outline

- Definition
- Design and Construction
- Meeting Ordinance Requirements
- Maintenance
- Examples



Direct connection

What Is A Rain Garden?

- Landscaped Shallow depressions, usually about 6 inches deep, 200 sf
- <1 acre watershed
- Planted with wild flowers and other deep-rooted native vegetation
- Intended to allow runoff from roof, lawn, and driveway to filter into the ground, instead of entering drainage / storm sewer system

Design & Construction

- Location
- Excavation
- Soil preparation
- Berm, spillway, conveyance
- Plant with plugs of native plants
- Subdivisions: Constructed up front by developer or after fact by homeowners?



Amending soil with compost



Tilling



Flow spreader





Laying out plugs

Use of small spillway



Mulching for weed suppression and moisture

Meeting Ordinance Requirements – Peak Discharge

- Limited value, because of small storage volume and lack of restricted outlet
- For subdivision of 20 1-acre lots, total storage may be 2,000 cf, vs 167,000 cf of runoff in 100-year storm
- Little or no “live” storage above outlet (berm)

Ordinance Infiltration Requirement

- Potentially valuable tool
- Residential example
 - 25% of 2-year storm runoff for 20 1-acre lots in B soils is about 9,075 cf
 - This is 454 cf / lot, or 1 30' x 30' x 6" rain garden per lot

Commercial Example

- For a 2-acre commercial site that is 50% impervious, 10% of the 2-year storm runoff would be 1,164 cf.
- This could be absorbed by a 40' x 60' x 6" rain garden
- Less than 3% of the total property



Pewaukee Public Library

Maintenance (If used to meet ordinance requirements)

- Responsibility of lot owner
- Requires drainage and access easements
- Requires maintenance agreement
- Municipality must be willing to enforce
- Shared runoff / joint ownership req't

Rain Gardens in ROW



- Problems with public facility / public ownership req't if individual lot owner is responsible for maintenance



ROW rain garden could be maintained by municipality

Outlot location is acceptable



Rain garden at Retzer Nature Center





