

Infiltration

and Stormwater Management Regulations in McHenry County



Presentation Outline

1. McHenry County Regulations
2. Other Chicago-Metro County Regulations
3. Wisconsin Regulations
4. Considerations for Future Regulations
5. Questions



McHenry County Regulations



Stormwater Management Ordinance

- History
 - Manage and Mitigate Urban Impacts (55 ILCS 5/5-1062)
 - Consolidate Regulations
 - Minimum Standards
 - Countywide Plan



Stormwater Management Ordinance

- History
 - Stormwater Committee
 - Stormwater Management Plan
 - Stormwater Management Ordinance



Stormwater Management Ordinance

- Regulations
 - Runoff Volume Reduction Hierarchy, including
 - Minimize impervious surfaces
 - Use vegetative channels
 - Preserve natural infiltration



Stormwater Management Ordinance

- Regulations
 - Water Quality Protection for runoff from new impervious areas
 - Reduce pollution and stormwater volumes to the maximum extent practicable
 - Wet detention facilities
 - Sedimentation facilities
 - Infiltration basins
 - Infiltration strips
 - Filter strips
 - Vegetated swales



Stormwater Management Ordinance

- Regulations
 - Infiltration Basin Design Requirements
 - Dewater within 72 hours
 - Infiltration rate > 0.5 in/hr
 - Provide pre-treatment
 - 200 ft from water supply wells
 - Redirect poor quality runoff
 - Bottom > 4 ft above seasonal high groundwater



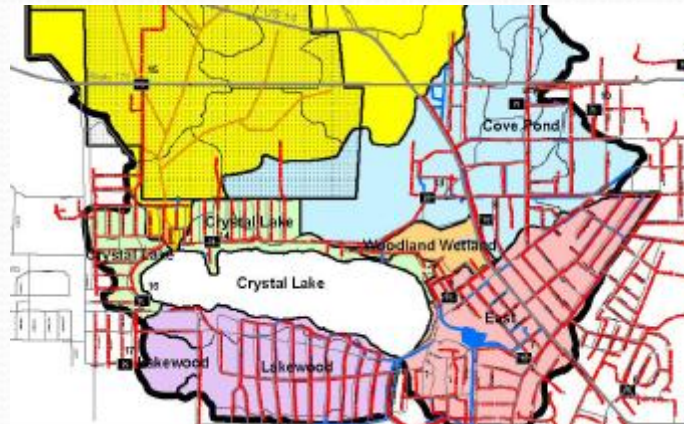
Subdivision Ordinance – Conservation Design Standards

- Automatic and Cumulative Triggers, including
- Stormwater BMP Standards
- Street and Parking Lot Standards



Crystal Lake Watershed Stormwater Management Program

- To protect the quantity and quality of water reaching Crystal Lake and the nearby shallow groundwater resources:
 - New development must infiltrate 95% of the annual stormwater runoff; and
 - Provide pre-treatment prior to infiltration

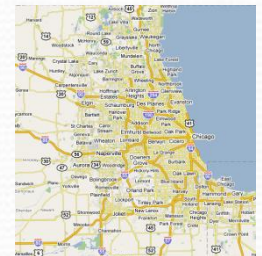
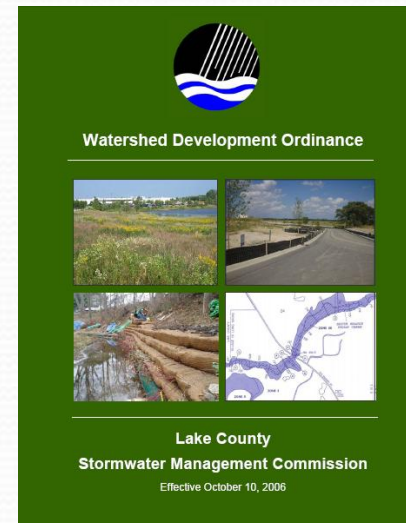


Other Chicago-Metro County Regulations



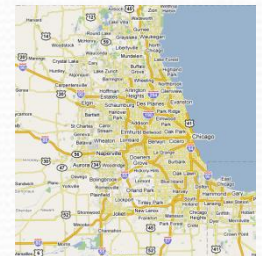
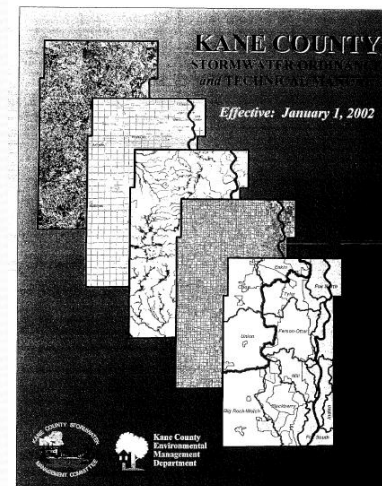
Lake County

- Watershed Development Ordinance
 - Water Quality Protection req'd, not necessarily infiltration
 - Runoff Volume Reduction Hierarchy, including
 - Minimize impervious surfaces
 - Utilize vegetated channels
 - Preserve natural infiltration



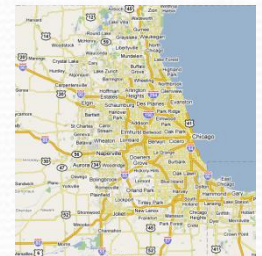
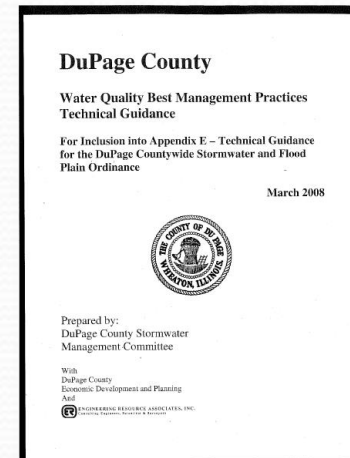
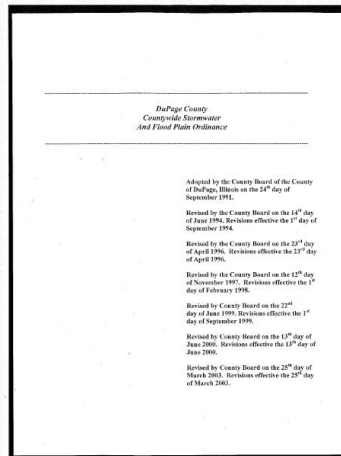
Kane County

- Stormwater Ordinance
 - Retain runoff from $\frac{3}{4}$ " rainfall over connected impervious areas
 - Promotes infiltration



DuPage County

- Stormwater and Floodplain Ordinance
 - Water quality treatment for runoff from developed areas
- Water Quality Best Management Practices Technical Guidance
 - Select BMPs to reduce target pollutants
 - Infiltration
 - Permeable Pavers
 - Vegetated Swale
 - Etc



Wisconsin Regulations



NR 151 Subchapter III

- Infiltration req'd as part of a Stormwater Management Plan
 - Residential Developments
 - 90% of pre-development infiltration, or 25% of the 2-yr/24-hr storm
 - No more than 1% of site



NR 151 Subchapter III

- Infiltration req'd as part of a Stormwater Management Plan
 - Non-residential Developments
 - 60% of pre-development infiltration, or 10% of the 2-yr/24-hr storm
 - No more than 2% of site



NR 151 Subchapter III

- Infiltration req'd as part of a Stormwater Management Plan
 - Exemptions
 - Certain types of industries
 - Fueling and maintenance
 - Inadequate separation from wells, groundwater, or bedrock
 - Coarse or contaminated soils



NR 151 Subchapter III

- Infiltration req'd as part of a Stormwater Management Plan
 - Exceptions
 - Infiltration rate $< 0.6''/\text{hr}$
 - Commercial/Industrial less than 5000 sf of parking lot or roads
 - Redevelopment
 - Infill < 5 ac

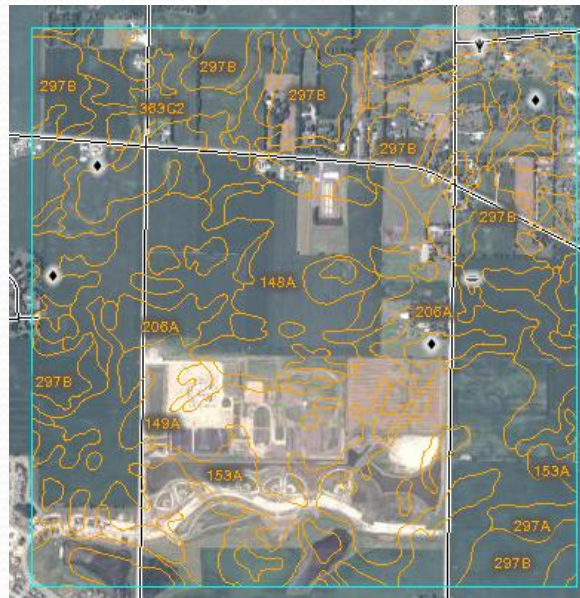


Considerations for Future Regulations



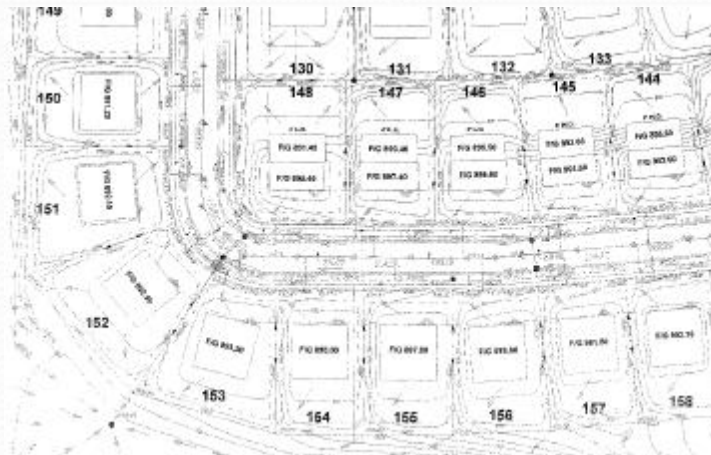
Appropriateness

- Does Runoff Volume Reduction = Groundwater Recharge?
- Land Uses
- Soil Types



Design Requirements

- Conflicts with Other Regulations
- Multi-Discipline Design
- Design Storm Event vs. Continuous Simulation
- Field Investigations



Construction Practices

- Careful Planning and Phasing
- Education
- Performance Guarantee?



Long-Term Maintenance

- Responsibility
- Access
- Stakeholder education



Questions

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