

PROTECTING THE CRYSTAL LAKE WATERSHED



CITY OF
Crystal Lake
ILLINOIS

SILVER & SLEEPY HOLLOW CREEKS WATERSHED

ACTION PLANNING MEETING

July 20, 2011

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Director of Engineering & Building**

PROTECTION OF THE CRYSTAL LAKE WATERSHED

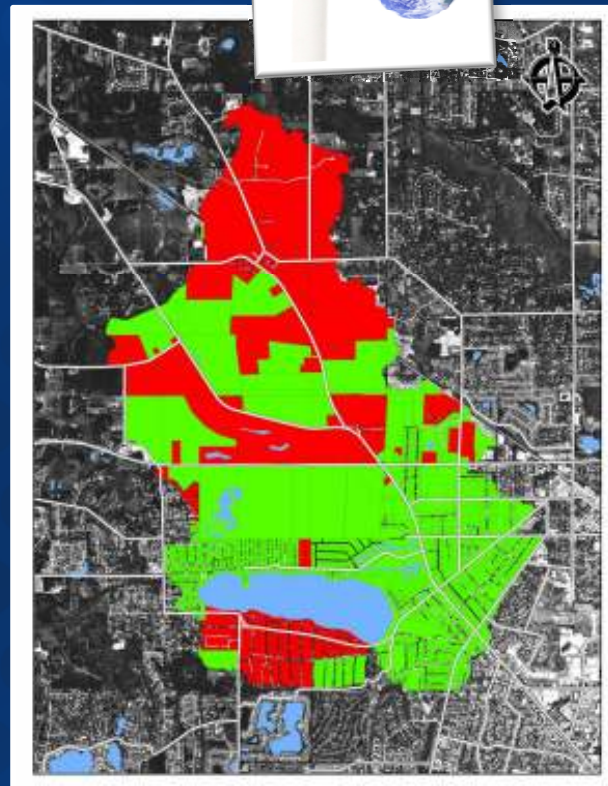
AGENDA

- 💧 **History of the Watershed**
- 💧 **Goals**
- 💧 **Watershed Design Manual Summary**
- 💧 **Application of Best Management Practices (BMP's)**
- 💧 **The City of Crystal Lake's Implementation Plan**



HISTORY

- 💧 **2,300 acre watershed**
- 💧 **Primarily agricultural with some residential near the lake**
- 💧 **Highly sensitive to changes in stormwater quality & volume**



HISTORY

GOALS

WATERSHED
DESIGN MANUAL

BEST
MANAGEMENT
PRACTICES

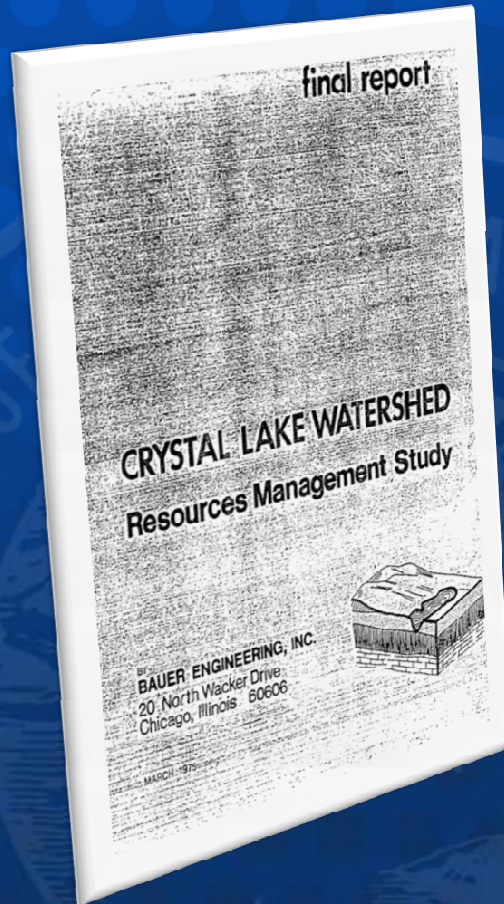
IMPLEMENTATION

CONCLUSION

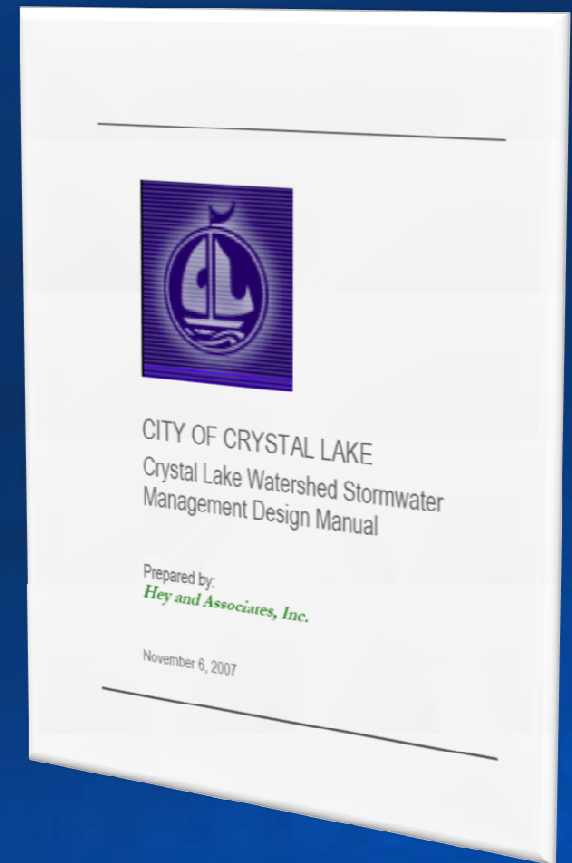


THE CITY OF CRYSTAL LAKE HAS BEEN A LEADER IN WATERSHED PROTECTION SINCE THE 1970's

HISTORY OF THE CRYSTAL LAKE WATERSHED



- 1970's: Instituted maximum allowable impervious coverage (*aka "The Bauer Report"*)
- 2007: Updated City regulations using modern Best Management Practices, or "BMP's" (*Watershed Design Manual*)



COPIES OF BOTH REPORTS ARE AVAILABLE AT WWW.CRYSTALLAKE.ORG

GOALS



- 💧 Improve the **QUANTITY** of water reaching the lake
- 💧 Improve the **QUALITY** of water reaching the lake
- 💧 Provide **CONSISTENT** regulation for the entire Crystal Lake Watershed



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THESE GOALS ARE KEY TO PROTECTING ANY WATERSHED, NOT JUST CRYSTAL LAKE

REGULATION: WATERSHED DESIGN MANUAL

- Addresses first two goals for lake protection by reducing pollutants reaching the lake & ensuring sustainable groundwater recharge
- Step 1 – reduce phosphorous reaching BMP's using *Conservation Design strategies*
- Step 2 – reduce phosphorous reaching groundwater using *comprehensive BMP's*
- Step 3 – recharge groundwater reaching lake by requiring infiltration (no surface release)



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GREATER IMPERVIOUS COVERAGE NOW POSSIBLE USING MODERN BMP's

BEST MANAGEMENT PRACTICES (BMP's)

POLLUTANT SOURCE CONTROL

- Fertilizer Management
- De-Icing Compound Usage
- Bulk Chemical Storage

IMPERVIOUS AREA REDUCTION

- Permeable Pavement
- Green Roofs
- Impervious Reduction Incentives

PRE-TREATMENT DESIGN

- 1st Flush Treatment: Bioswales, Rain Gardens
- Wet Detention or Wetland Detention Basin



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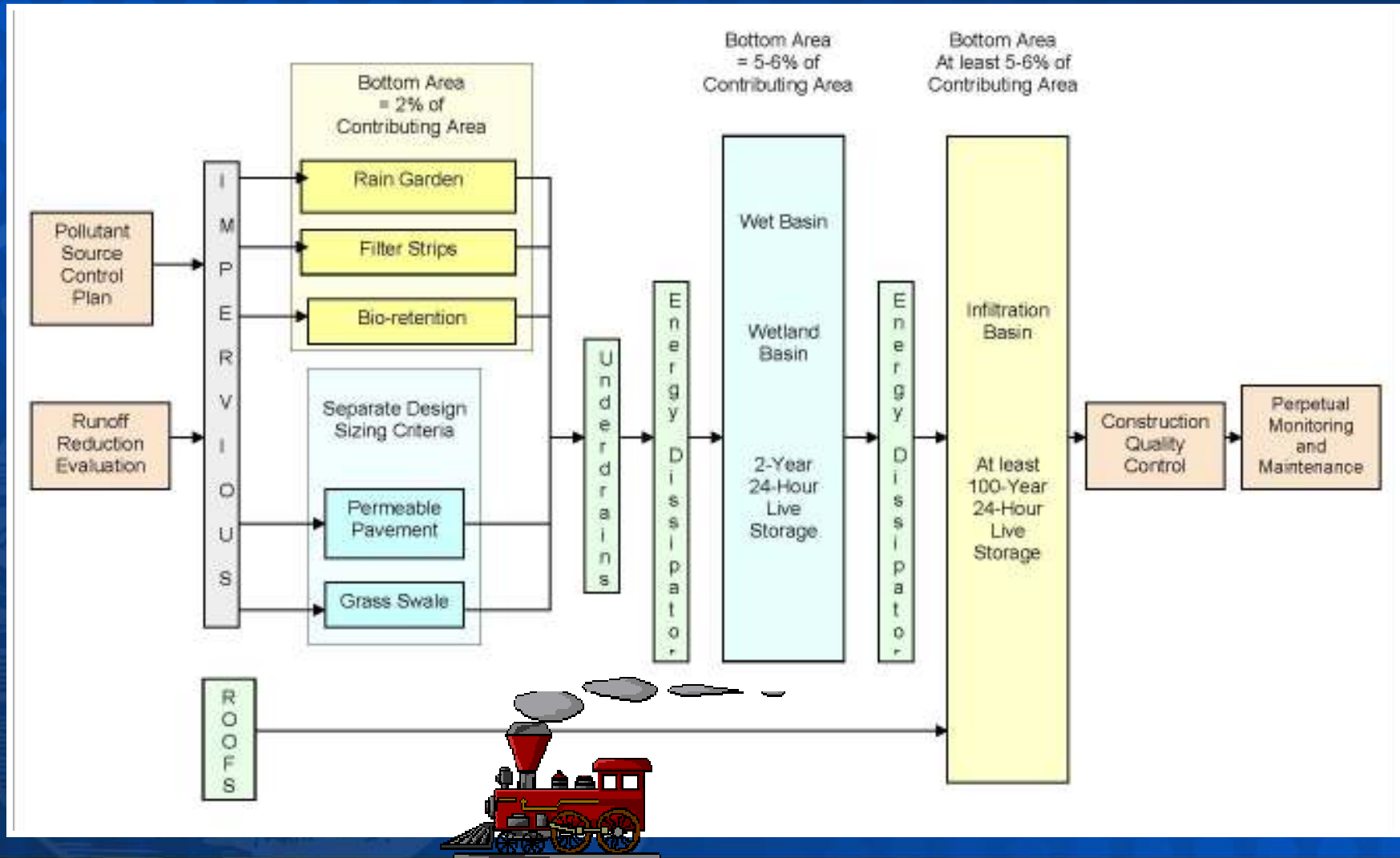
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1ST FLUSH & PRE-TREATMENT BMP's REQUIRED PRIOR TO GROUNDWATER INFILTRATION

WATERSHED DESIGN MANUAL

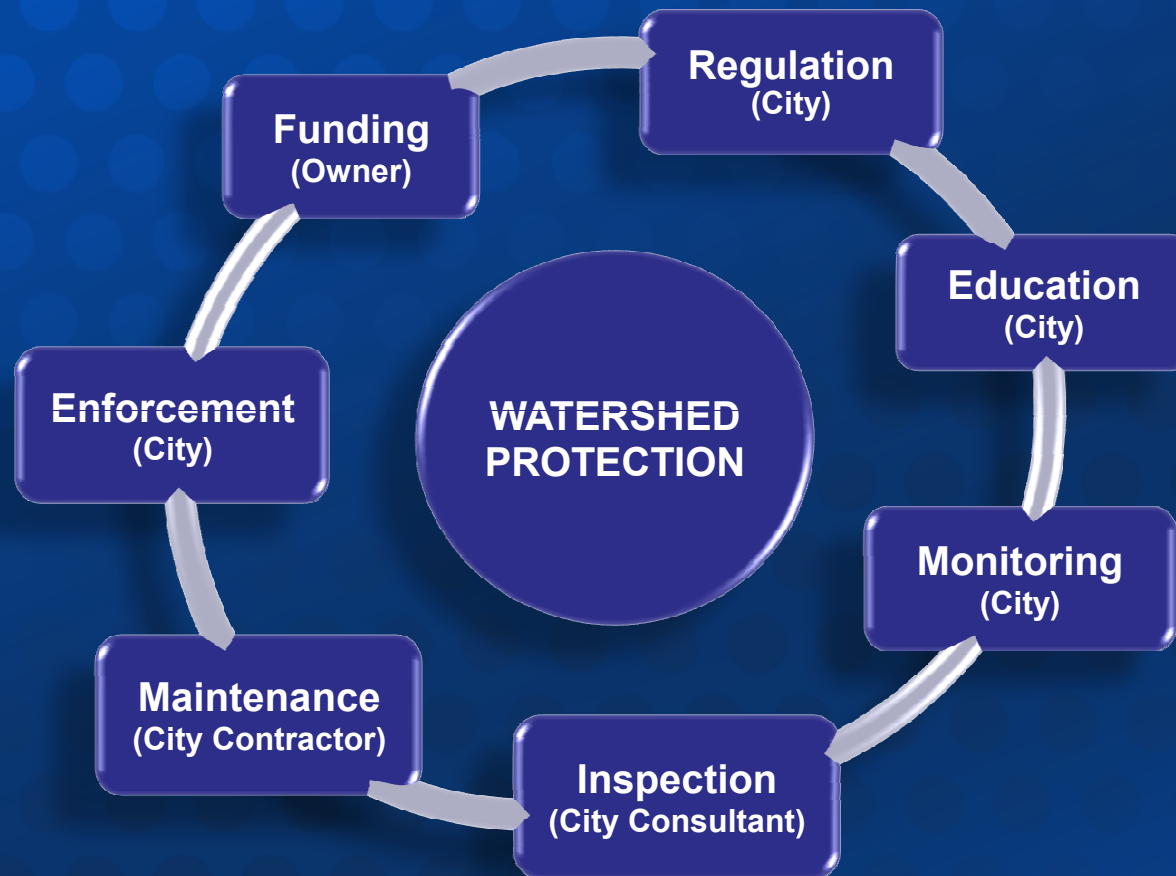


“TREATMENT TRAIN”



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IMPLEMENTATION PLAN



7 KEYS TO SUCCESSFUL IMPLEMENTATION OF THE CITY'S WATERSHED PROTECTION PLAN

EDUCATION

- 💧 **DEVELOPER'S GUIDE TO THE CRYSTAL LAKE WATERSHED**
- 💧 **DEMONSTRATION PROJECTS**
 - 💧 **Brink Street Bioswale**
 - 💧 **Community Rain Garden**
- 💧 **RAIN BARREL ORDINANCE & INCENTIVE PROGRAM**
- 💧 **COMMUNITY OUTREACH**
(Clean Air Counts Committee)
- 💧 **OTHER WATER QUALITY INITIATIVES**



EDUCATION OF STAKEHOLDERS & THE ENTIRE CITY IS AN ONGOING & EVOLVING PROCESS

PROTECTION OF THE CRYSTAL LAKE WATERSHED



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