DESIGN OF URBAN STORMWATER CONTROLS TRIVIA!

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Chicago, Illinois
October 9, 2013
Outline

• Motivation
• Project Task Force
• What’s new?
• MOP organization
• Chapter description
• Trivia questions
Motivation

- Existing MOP “Urban Runoff Quality Management” was over 14 years old
- Holistic stormwater management, not just quality
- New technology
  - LID
  - Commercial devices
# Project Task Force

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What’s New?

• Unit Processes / Unit Operations (UP-UO) approach
• Unification of terminology
• Comprehensive view of impacts:
  – Hydrology (peak flow, runoff volume, flow duration)
  – Water quality
  – Stream geomorphology
  – Aquatic ecology
• Updated maintenance requirements and cost procedures
• Assessment and modeling methods
• Aimed at designers and non-technical municipal officials
• Sizing examples
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“Stormwater Controls”
Unit Processes for Stormwater Control

- New framework for stormwater management

  - *Unit Process* – Mechanisms for pollutant removal or quantity control

  - *Unit Operation* - The structure in which one or more unit processes occur, i.e., stormwater controls (wet basin, sand filter, swirl concentrator)

  - *System* - One or more unit operations in series
Unit Operations

• Same as “stormwater controls”
• Five types of stormwater controls:

1. Basins
2. Swales & Strips
3. Filters
4. Infiltrators
5. Gross Pollutant Traps
Systems

- Two or more UOs in series
- “System” preferred over “treatment train”
Outline for Each Design Chapter

• Description
• Typical Applications
• Limitations
• Design Procedure and Criteria
• Aesthetic and Safety Considerations
• Access and Maintenance Features
• Sizing example
Design Chapters

6. Basins
   - Wet basins
   - Dry basins
   - Wetlands
   - Vaults
   - Oil/water separators
   - Forebays
   - Cisterns / Rain Barrels

7. Swales and Strips
   - Swale
   - Strip

8. Filters
   - Sand filter
   - Subsurface sand filter
   - Bioretention filter
   - Landscaped roofs
   - Drain inlet inserts
   - Manufactured filters
   - Subsurface Gravel Wetland

10. Infiltration
    - Basins
    - Trenches and Vaults
    - Dry Wells
    - Permeable pavement

11. Gross Pollutant Traps
    - Screens
    - Nets
    - Baskets
    - Racks
    - Hoods
Advancements in Design

• Research applications
• Examples:
  – Bioretention filters – media mixes
  – Infiltrators – cold climate considerations
  – Swales and strips – design curves
  – Gross pollutant traps – new devices
To play the trivia game, visit:

http://stormwater.wef.org/stormwatertrivia