LID Regulations for California Municipal Stormwater Programs

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Reigning in the Rain: LID Workshop
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Objectives

• What’s Driving LID in California
  – MS4 Permits

• Evolution of MS4 Permit Requirements for Development Planning and Implementation
  – LID is Not Really New

• Design Standards

• Realities of Implementation
LID Drivers in California

• Municipal Stormwater Permits
  Ventura County  San Diego County
  Orange County  Riverside County
  Los Angeles County  San Bernardino County
  Northern CA (Bay Area, Sacramento, others)
  Phase II General Permit

• Construction SW General Permit

• NRDC

• Growing Sustainability Awareness
  – Green Building Movement
MS4 Permit Objectives

• Effectively Prohibit Non-Stormwater Discharges

• Reduce Pollutants to the Maximum Extent Practicable in all Discharges
  – Through BMP Implementation

• Achieve Water Quality Standards per Basin Plans

• Training Required for all Program Elements
From Regulations to Implementation

Federal Clean Water Act / USEPA

LID Implementation

Development Projects

NPDES Permit Authority

Project Approvals

State and Regional Water Boards

Local Jurisdictions

LID Reqts. in MS4 PERMITS

In MS4 PERMITS

From Regulations to Implementation
Land Planning and Development in California MS4 Permits

• Phase 1 Permits
  – Early 1990
  – Middle 1996 - 2000
  – Recent 2007

• Phase 2 General Permit
  – 2008 Renewal
Early MS4s (50 pages)*

• Data Compilation
  – What BMPs
  – What Programs

• Prepare a DAMP
  – Proposed Modifications to existing BMPs/Programs
    • Structural Controls—including infiltration devices, porous pavement, and grass swales
    • Non-Structural Controls

*Example from SB County
Early MS4s

• “all new developments and …significant redevelopment, irrespective of size, must develop individual, comprehensive, long-term, post construction stormwater management plans, incorporating structural and non-structural BMPs.”

• Must include long-term funding and support for maintenance.
Middle MS4s (70-85 p.)*

- ...shall include watershed and storm water management considerations in the ... Permittee's General Plan... may include the following:
  - i. Conservation; and/or
  - ii. Open space; and/or
  - iii. Land-use; and/or
  - iv. Public utilities; and/or
  - v. Infrastructure; and/or
  - vi. Other appropriate elements.

- Educate Developers: Maximization of pervious areas and storm water infiltration

*LA County 96-054
Recent MS4s

- San Diego County (2007, 119 p.)
  - More Specificity Regarding Impacts and Sources
  - LID Specified (as LID)
  - Revise General Plan or Equivalent
    - Effective Water Quality And Watershed Protection Principles And Policies For Land-use Decisions
    - Implement Consistent Water Quality Protection Measures For Development Projects.
  - Review/Revise Environmental Review Process
Recent MS4s

- Ventura Draft (2007-08; 122 p.)
  - Prioritize BMP “Suites”
    - LID Strategies
    - Integrated Water Resource Management
    - Multi Benefit Landscape Feature BMPs
    - Modular/Proprietary BMPs
  - LID Required for Specified Project Categories
  - Prescriptive Hydromod Requirements
  - LID Section for Technical Guidance Manual
  - Post-Construction BMP Tracking
Bay Area Regional MS4

- Regional MS4 Draft (2007; 189 p.)
  - LID Required for Specified Project Categories
  - Defines LID Implementation
  - Design Storm Volume/Flow Specified
  - Alternatives Presented
    - Off-Site Equivalent Treatment
  - Maintenance
MS4 Project Categories

• Size
  – 1 Acre Disturbed Area
  – 5,000 Sq Ft Project Surface Area
  – 5,000 Sq Ft Road Projects

• Specific Conditions
  – Env Sensitive Area Proximity

• Single Family Residential
  – May Be Exempt
Phase 2 MS4
Statewide General Permit

• Permit Renewal in Preparation with Stakeholder Process
• Draft in 2008 (?)
• LID Expected to be Required
Regulatory Design Standards

- Design Storm (infiltrate or treat)
  - $85^{th}$ Percentile, 24 hour Storm
  - Volume and Flow Rates
- Peak Runoff Rate Control
- Flood Control Issues
  - Large Storm Capacity
- Landscape Requirements
  - Water Conservation
Regulatory Design Standards

- 85\textsuperscript{th} Percentile, 24 hour Storm
  - ¾ Inch Storm
- How Much LID = 85\textsuperscript{th} Percentile?
  - May Need Translators
LID Requirements in MS4s

• LID Specified
  – We Must Implement LID

• Technical Manuals

• Planning Process Links

• Maintenance Plans

• Training
Related Regulations

- TMDLs
- USACOE (404 Permits)
- Reg Board (401 Certifications)
- DWR Landscape Ordinance (by 2010)
Real-World Implementation

• Local Agency Process
  – Interdepartmental Communication

• Design versus Built
  – Specifications
  – Inspections
  – Enforcement
  – Maintenance

• Acceptance
  – Process
  – Product
Real-World Implementation

• Challenges/Barriers
  – Interdepartmental Cooperation
  – Lack of Training “Across the Board”
  – Difficult to Change Existing System
  – Education/Acceptance of/by Politicians
  – Conflicts with Codes
Beware of Assumptions!

Pay no attention to that man behind the curtain...
Regulatory Objectives for LID

Pollutants  Hydrology  Habitat

From Regulations

Need a Square-to-Rounded Translator

To Implementation

Local Jurisdiction Development Process

Zoning  CEQA  Planning  Commission  General  Plan  Landscape  Ordinances  Codes  Fire
Regulatory Objectives for LID

Pollutants  Hydrology  Habitat

LID Guidance and Training

Local Jurisdiction Development Process

Zoning  CEQA  Planning Commission  General Plan  Landscape Ordinances  Fire Codes
LID Guidance and Training Project

• Project Developed By The SMC and CASQA
  – Training Workshops
  – LID Field Effectiveness Monitoring
  – Technical Guidance Manual Development
  – Coordinate with other LID efforts

• Prop 40 Urban Stormwater Grant (first 2-3 years)
  – $600,000 + $200,000 SMC and CASQA Match
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Questions?

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