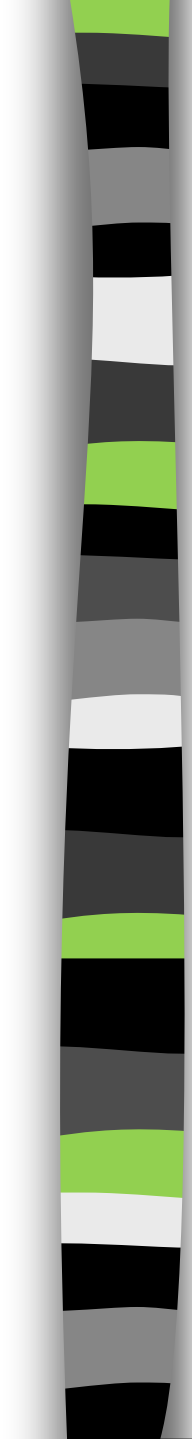


# The Houston Experience



One Path to Market-Driven  
**Green Infrastructure**



# Green Infrastructure, a.k.a. Low Impact Development (LID)

- Common obstacles to implementation
  - Focus on water quality regulatory impetus obscures 'market-friendly' attributes
  - "It won't work here. Our conditions..."
  - Requires 180° shift in site design approach
    - Countering a 2000 year-old model

# Houston Land/Water Sustainability Forum



- Get all constituencies with a 'vested interest' in development on the same page
  - Anticipate regulatory impetus
  - Explore options for change in local context
  - If change is inevitable, we need to lead
- Provide 'nuts & bolts' education
- Foster communication and relationships
  - Sustainable design requires integrated teams

# Common Understanding

- Costs of traditional development soaring
- Developing 'the way we've always done it' is more and more counterproductive
- For public agencies, costs of keeping pace with results of traditional development becoming massive burden

# HLWSF Steering Committee

Education is having an impact, but how do we leverage it, and speed up the process of widespread adoption, adaptation and implementation?

**American Institute of Architects**

HOUSTON CHAPTER

**American Society of Civil Engineers**

HOUSTON CHAPTER



# LID Design Competition

- Increase general awareness
- Provide 'hands on' learning opportunity
- Overcome 'chicken or the egg' dilemma
- Generate exploration and design experience
- Let the process prove the value proposition
- Provide exposure to those willing to lead

# Keys to the Competition

- Real properties, real projects as subjects for design challenge
  - Variety of challenges brings more players
- Focus on local issues rather than SWQ
  - Require designs to reduce runoff below pre-development curve
  - Require designers to compare costs to traditionally designed project costs

# Keys to the Competition

- Publicity and promotion within design community
- High-profile Finals Event
- Vested-interest groups have 'skin in the game'
  - City/County agencies
  - Engineering, Architecture, Landscape Architecture, Environmental organizations



**Subject Properties**

**Prize Money**

**Mischer Investments**

**Harris County**

**City of Houston**



**Bayou Preservation Association**

**Architecture Center Houston**

**ASCE Houston**

**AIA Houston**

# Participation Drivers

- Peer pressure from competitors, sponsors and property providers
- **Pressure from City/County staff**
- Pressure from advancing regulations
- Strength of Expert Judges Panel
- Composition of Finals Event Jury Panel
- Potential to get work from property owner







# Participant Demographics

- 22 submitting teams
  - 9 Green Roadway
  - 4 Urban Redevelopment
  - 9 Suburban Residential
- 42 firms (TX, IL, NC, GA, CO, CA, KS)
- 230 design professionals
  - Architects, Civil Engineers, Landscape Architects, Hydrologists, Urban Planners, Construction Consultants, Homebuilders, Environmentalists, Transportation Engineers, Irrigation Consultants



# Consistent Results

- Mimicking nature really works
  - Significant reductions in runoff
  - Significant cost savings compared to traditional development methods
  - Major improvements in water quality
  - Consistent results produced by all teams
- Conservative civil engineering firms proselytize for 'green infrastructure.'



# Lessons

- LID is a superior design approach even when Water Quality is a secondary goal
- Regulatory pressure isn't needed to make LID the dominant method of development
- The opportunity to learn for yourself is extremely valuable
- Sustainable design thrives in a collaborative approach in design



# Impacts

- Permitting for LID-based projects has increased dramatically
  - Large scale suburban residential & commercial
  - Urban residential
  - City and County roadway projects
- Spawned collaborative LID Design Guide Workshops
  - Fast-tracked performance-based 'Interim' ordinance solution





# Ultimate Value

- Quickly educated and energized a large segment of the design community
- Proved that water quality is not the only reason LID makes sense
- Demonstrated the economic benefits to developers and municipalities
- Created a 'community' of sustainable site design among local design firms

# What You Can Do

- Call a meeting of 'vested-interest' groups
- Put together a Competition Committee
- Choose real projects (library, park, fire station, office/maintenance facility) that generate designs which have transferrable elements
- Put on a highly visible competition
- '**Strongly encourage**' all design professionals who work for, or want to work for, the City to participate.

# Resources



[www.houstonLWSforum.org](http://www.houstonLWSforum.org)

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