UNO Bioretention Demonstration
A Waterwise Grant Project

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Project Context

- Post-construction ordinance
- ‘Simple & natural’
- CSO & MS4
- Collaboration with community
- Create examples to learn from

Project Background

- Initial discussions with City and NFS - August 2011
- Logical location
  - Highly Visible
  - Campus
  - Fix was needed
- Proposal developed
  - “You want to do what?”

Project Background/Funding

- Proposal completed - December 2011
- Commitments negotiated - “you want us to do what?”
- Landscape Services
- Facilities
- Business/Finance
- Contracts
- NFS funding lead; City covers remainder and is “Client”; UNO is property owner
- Support letter written for Vice-Chancellor to sign
- City project on campus property?

Grantor’s Perspective

- Partnerships enhance the quality and scale of a project
- Waterwise Initiative
  - Funded by Nebraska Environmental Trust, administered by Nebraska Statewide Arboretum
  - Focus is on using plants to improve water quality, water conservation and habitat.

The Collaborative Model

- Instigator - Unstable faculty member
- Facilitator (Client) - City
- Willing (?) property owner - UNO
- Funders - NSA & City
- Designer - Big Muddy Workshop
- Qualified contractor - Dostals - Sup. Jim
Bioretention Design

- Two drainage areas
  - RED = 10,000 SF
  - 45% impervious
  - BLUE = 14,000 SF
  - 30% impervious
- Ideal "side by side" comparison opportunity

Bioretention Design

- Two cell design – Ying & Yang
  - **Ying**
    - Amended soil trench – 1' min.
    - Direct drain
  - **Yang**
    - Amended soil trench – 2' min.
    - Up-turned elbow drain – ‘N’

Planting Design

- Ideal opportunity to “practice what you preach”
- Test plants under variable conditions
- Create “ideal” planting design
- Maintainability critical

Planting Design (cont.)

- Open-ended plant variety opportunity
- “New” plants
  - Sedge species
  - Trees and shrubs
  - Not just within the bioretention cell
  - Emphasize garden context

Design Concept

- Design invited people into garden
  - Access to garden
  - Paths thru garden
  - Seating
  - Visual Drama
  - Engaging
  - “What’s that?”
### Client Perspectives
- Vary bioretention details in retrofit
- Interactive layout
- Teaching tool
- Show potential benefits with integrating green infrastructure
- Better understand the plants used

### Benefits
- Implementation experience for all disciplines
- Opportunity to expand bioretention design knowledge base
- Stack the odds in favor of success
- Having fun at work

### Benefits (cont.)
- Enhance campus front door
- Stormwater Education
  - Design professionals
  - Contractors
  - Stakeholders
  - Students
  - Faculty and staff
  - Citizens

### Lessons Learned
- Do more with less – minimized amended soil volumes
- It takes a team to make a great project
- Trust judgment to go outside the box
- Make inviting spaces - make it a place
- Variety is the spice of life
  - Drainage control options
  - Plants
  - Hardscape