



Watershed Protection Ordinance (WPO): Stakeholder Meeting

Structural Stormwater Controls Part 3

March 2, 2012

Meeting Objective

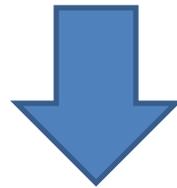
Introduce “green infrastructure” and its potential benefits, opportunities, and challenges.

Meeting Agenda

- **Introductions [5 min.]**
- **Staff Presentation: Green Infrastructure [40 min.]**
 - **Brief Introduction: Advantages/Opportunities**
 - **City of Austin & Green Infrastructure**
 - **Challenges/Potential Limitations**
 - **Addressing Barriers to Green Infrastructure**
- **Small-Group Breakout Sessions [60 min.]**
 - **Potential opportunities & challenges**
- **Full Group Wrap-Up [15 min.]**
 - **Summary of opportunities & challenges**

Introduction: What is Green Infrastructure?

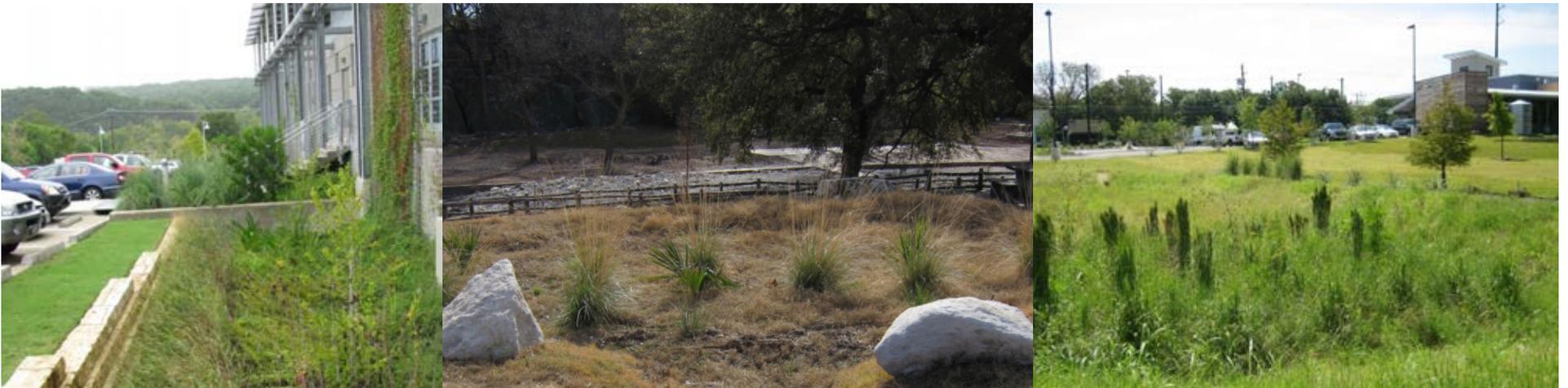
Imagine Austin: Interconnected system of parks, waterways, open space, trails, green streets, tree canopy, agriculture, and stormwater management features that mimic natural hydrology



Stormwater Focus: Landscape features and engineered systems that mimic natural processes to control the quantity and quality of runoff

Introduction: Green Infrastructure Elements

- **Small-scale size**
- **Distributed/integrated into site**
- **Rely on natural elements: soil, plants, biota**
- **Passive designs**



Introduction: Advantages/Opportunities

- **Improved water quality performance**
- **Site amenity/landscape feature**
- **May reduce capital & maintenance costs**
- **Synergistic environmental benefits**
 - **Water conservation, habitat, cooling, etc.**



City of Austin & Green Infrastructure: Green Infrastructure Initiative

- **Creation of WPD Green Infrastructure Team**
- **City sponsored green infrastructure projects**
- **Update Technical Manuals to provide guidance in using GI to meet WQ ordinance requirements**
- **Outreach to homeowners and schools**



what is a rain garden?

A rain garden is a shallow, vegetated depression designed to absorb and filter runoff from hard (impervious) surfaces like roofs, sidewalks, and driveways. Rain gardens are usually planted with colorful native plants and grasses. They not only provide an attractive addition to the yard, but also help to conserve water and protect our water quality.

How does a rain garden help?

As Austin becomes increasingly urbanized, native landscapes are replaced with impervious surfaces that prevent rainwater from soaking into the ground. Stormwater picks up pollutants from the road and carries them to our creeks. The fast-flowing water also increases the chance of flooding and erosion.

The goal of a rain garden is to keep water on the land. Rain gardens, with their shallow depressions, capture stormwater and provide for natural infiltration into the soil. This provides water for the plants and helps maintain a constant flow of water in our streams through groundwater. They also help filter out pollutants including fertilizers, pesticides, oil, heavy metals, and other chemicals that would otherwise reach our creeks through storm drains or drainage ditches. By reducing the quantity of water that runs off your property, rain gardens help lower the risk of flooding and erosion.

www.growgreen.org

earth-wise guide to Rain Gardens

Keeping Water on the Land



Create A Rain Garden In Six Steps

1. **Find the Right Location**
 - Select an area on gently sloping or flat land.
 - Hardy the slope of your lawn (instructions on next page). Slope should not exceed 10%.
 - If possible, pick a spot in full to partial sun. Shade structures will do work, but the optimal for attractive plants are more limited in the shade.
 - Make sure that any overflow does not cause unintended runoff to a neighbor's property or other structure.
 - If you are experiencing drainage-related problems (e.g. lower foundation problems, erosion or local flooding), consider placing the rain garden at least 10' away from the structure.
 - Avoid areas with utility lines. Be sure to call 1.800.DIG.TEX (1-800-437-7373) to identify the location of underground utilities - the service is free.

City of Austin & Green Infrastructure: Existing Regulations and Policies

- **ECM Criteria** for innovative water quality controls
- **Commercial Landscape Ordinance**: Stormwater runoff must be directed to 50% of required landscaped areas (WQ designs optional)
- **Transit-Oriented Development (TOD) Districts**: 75% of water quality to be treated with innovative WQ controls
- **City buildings and site development** must look for opportunities to incorporate green infrastructure
- **Additional credits** for PUDs, Green Building, Open Space, Wetland Mitigation, and Alternative Landscaping

Challenges

- **Maintenance & inspection**
 - Cost to maintain over time
 - Access, safety (e.g., ROW)
 - Tracking (inspection)
- **Design/permitting complexity**
 - More controls for same area
 - Volume considerations
 - Permitting time
- **Single-Family Residential**
 - Maintained by owner/HOA?
 - Common lots/ROW only?
 - Enforcement



Addressing Barriers

Potential Improvements:

- **Green infrastructure in stream setbacks**
- **Green infrastructure within compatibility setbacks**
- **Allow “stacking” of flood control volume on top of water quality volume**
- **Green infrastructure integration into Transportation Criteria Manual**
- **Improvements to Environmental Criteria Manual**
- **Practical rainwater harvesting (drawdown time)**
- **Clarify porous pavement credit in Code**

Addressing Barriers

Issues to Explore Further:

- **Predevelopment hydrology standard**
- **Performance standard other than sedimentation-filtration pond**
- **Rain gardens for single-family residential development**
- **Rain gardens for non-degradation compliance**
- **Porous pavement for non-pedestrian uses**
- **GI for small, infill subdivisions versus fee-in-lieu of water quality controls**
- **Potential alternatives for downtown water quality**

Breakout Groups

Discuss potential opportunities & challenges for implementing green infrastructure.

Adoption Schedule

Stakeholder Meetings

Sep 2011 – April 2012

(Meetings approx. every two weeks)

- | | |
|--|-----------------------|
| 1. Creek Protection | Sep 9, 23, Oct 7 |
| 2. Floodplain Protection | Oct 21, Nov 18, Dec 2 |
| 3. Development Patterns & Greenways | Dec 16, Jan 6, 20 |
| 4. Improved Stormwater Controls | Feb 3, 17, Mar 2 |
| 5. Mitigation Options (DDZ) +
Rule Simplification & Flexibility | Mar/Apr |
| 6. Staff develops Draft Ordinance | Apr/Jun |
| 7. Stakeholder Feedback on Draft Ordinance | Jul/Aug |

Boards & Commissions

Sep – Oct 2012

City Council

Nov/Dec 2012

Travis County Commissioner's Court

Winter 2012/13

Contact Information

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**[www.austintexas.gov/page/
watershed-protection-ordinance-0](http://www.austintexas.gov/page/watershed-protection-ordinance-0)**