Low Impact Development
Protecting Oregon’s waters as we grow
Watershed Before Development

- Interflow: 25.7%
- Groundwater: 36.6%
- Evaporation-Transpiration: 37.4%
- Surface Runoff: 0.3%

Courtesy May, U of W
The Problem: Conventional Stormwater Management
Watershed After Development

25% Evaporation-Transpiration
30% Surface Runoff
30% Interflow
15% Groundwater

Courtesy May, U of W
Water Quantity Impacts:
Flooding & Erosion
Physical Impacts

Stream erosion, Increased sediment inputs &
Increased stream temperature
Stormwater Pollutants

- Suspended solids/sediments
- Nutrients (nitrogen, phosphorus)
- Metals (copper, lead, zinc, cadmium, mercury)
- Oils & grease
- Bacteria
- Pesticides & herbicides
- Increased temperature
How can we manage development to mimic natural systems?
Low Impact Development
plans, ordinances, and best management practices

To better protect our
• Streams
• Fish and wildlife habitat
• Drinking water
• Water quality

To reduce infrastructure costs

To make our communities more attractive
Conventional Development

“Efficiency” – Collect, Convey, Discharge
LID Development
Low Impact Development
Site Design

- Narrow streets to reduce pavement
- Cluster units to protect open space
- Preserve existing trees
- Avoid compacting soils

Conservation

Typical Subdivision
Swales and Rain Gardens

Portland

Boardman, Eastern OR

Huber Park Elementary, Aloha
Green Streets

NE Siskiyou, SW 12th and OMSI in Portland. Boardman.
Studies show pervious pavements remove 50-98% of suspended sediments and associated particulate metals, as well as 97-99% of motor oil.
Green Roofs

SeQuential Biofuels,
Eugene, OR
Rainwater Harvesting

No permit is required to harvest up to 5,000 gallons of rainwater and use it for outdoor irrigation without connecting to potable plumbing.
Common Questions

1. How will we maintain these facilities?
2. Does LID work in tight, clay soils?
3. Is LID more expensive?
Learn More

www.oeconline.org/stormwater
• Stormwater Solutions workshops
• Case studies of LID projects in Oregon
• LID technical resources
• OregonStormwater listserv

http://extension.oregonstate.edu/watershed/low-impact-development-nemo
• SWAMP Project
• Urban Forestry
• Rain Gardens