Sustainable Gardens

Rain Gardens

Madeline Laurenson & Pat Arundell
What We’ll Cover Tonight

• What is a Rain Garden
• Why have a Rain Garden
• How does a Rain Garden work
• Design
• Retrofit Case Study
• Questions
A Rain Garden is

- Sustainable
- Low maintenance
- Green
- Good for environment
- Water Sensitive Urban Design
- Small Scale
- Make a difference (at home)
What is a Rain Garden

- Part of Stormwater System – downpipes, driveways
- Part of Landscaping
- Can be big – 30m² or more
- Can be small – 1 to 2 m²
- Simplest form of Water Sensitive Urban Design (WSUD)
- Treats Stormwater
Why

Diagram Courtesy of Melbourne Water

© Rain Gardens Australia Pty Ltd 2010
What’s so bad about stormwater?

- Chemicals – ie oil, grease
- Nutrients – ie fertilisers
- Physical contaminants
- Microbial pathogens (dog poo etc)
- Storm impacts
- Aesthetic contaminants
Typical Gross Pollutants in Urban Stormwater

Man made materials eg
Polystyrene, tennis balls, plastic bags, drink cans, newspapers, plastic bottles, litter, cigarette butts, syringes etc...

Vegetative Material
Leaves, grass clippings, seeds, etc...

Sediment
Fine and coarse with attached hydrocarbons, heavy metals and nutrients
Not a Typical Aesthetic Contaminant
## Why Do It – Why a Rain Garden

<table>
<thead>
<tr>
<th>Why do it?</th>
<th>Why a Rain Garden?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protect natural systems</td>
<td>Removal of N, P, fine sediment, not rapid disposal</td>
</tr>
<tr>
<td>Integrated landscaping</td>
<td>Water efficient landscaping</td>
</tr>
<tr>
<td>Protect water quality</td>
<td>Removal of N, P, fine sediment</td>
</tr>
<tr>
<td>Reduce runoff and peak flows</td>
<td>Detention of stormwater, not rapid disposal</td>
</tr>
<tr>
<td>Add capital value</td>
<td>Minimal development costs</td>
</tr>
</tbody>
</table>

© Rain Gardens Australia Pty Ltd 2010
How Does a Rain Garden Work
I Want One – What Now?

- Where is the water coming from
- Location
- Proximity to buildings
- Reactive soils
- New development or retrofit
I Want One – What Now?

- Garden size / location
- Plant selection
- Soil characteristics / mulch
- Depth (ponding & detention time)
- Aggi pipe size
- Overflow
Design

• What works – Get design early
• What doesn’t – leaving design as add on
• Caution – retrofits
retrofit pictures
(tips for the unwary)
Rain Gardens
because

Gardens that clean are green

www.raingardens.com.au
sustain@raingardens.com.au