

# RAIN GARDENS: DESIGN FOR MAINTENANCE



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# RAIN GARDENS: DESIGN FOR MAINTENANCE



## Today we will cover:

- 💧 Why maintenance is important
- 💧 Tools to help you teach your customers how to maintain their installations
- 💧 Planting plans: right plant, right place
- 💧 Design for maintenance
- 💧 Q&A



# DEMONSTRATE MAINTENANCE

*Help your Customers Succeed with their 5-Year Maintenance Agreements (10 years for Big Roofs)*

## ***Design your installation to be easily maintained!***

- ✓ *Walk through the final installation with your customer and trace the whole system to show how water flows*
- ✓ *Demonstrate the maintenance needed; have them practice while you are there*
- ✓ *Make sure resident owns basic weeding tools like a digging fork, hand weeder, and a shovel, and can tell the difference between weeds and the rain garden plants*

**Pro Tip: Offer to come back and maintain the installation twice a year for the first 2 years; create a maintenance cost estimate to share with your customers**

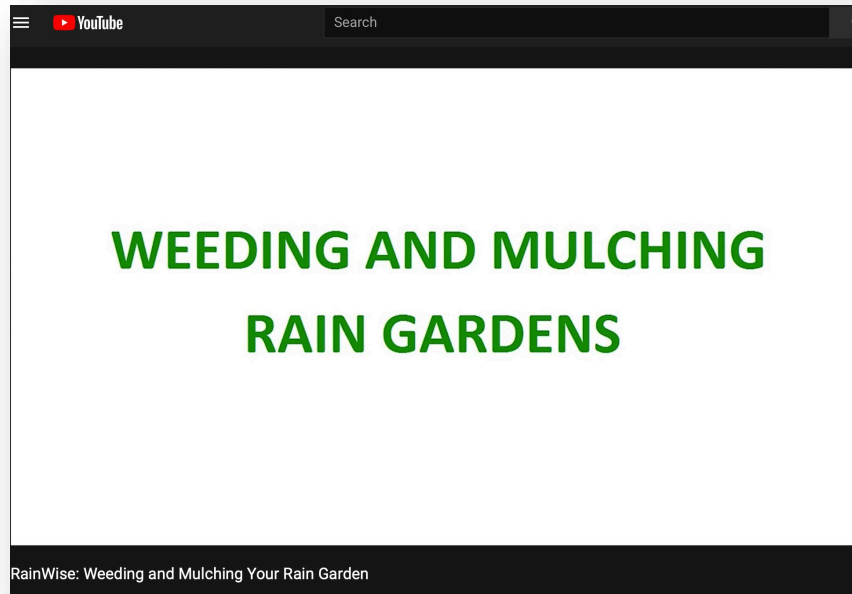


# TEACHING MAINTENANCE STEPS

*5 Year Commitment*



Printed "How To" Guide



"How To" Videos



# RESOURCES IN OTHER LANGUAGES

[700milliongallons.org/rainwise/maintenance](http://700milliongallons.org/rainwise/maintenance)



RainWise Flyer  
Spanish & Vietnamese



Maintenance Guide  
Spanish & Vietnamese



Maintenance Videos  
Videos in English, Spanish and Vietnamese

## On Site Interpretation

ECOSS staff are available in many languages including:

- Mandarin
- Spanish
- Vietnamese



# USING THE GUIDE FOR RAIN GARDENS

## *Weeding*



Knowing the difference between a weed and a rain garden plant!





# USING THE GUIDE FOR RAIN GARDENS

## *Mulching*

- What *is* mulch?
- How much should I get?
- Where do I get it?
- How often do I put it on?



# USING THE GUIDE FOR RAIN GARDENS

## *Mulching*

- Keeps the soil moist
- Replenish organic material in the soil
- Prevent erosion
- Discourage weeds
- Wood Chips (arbor chips) are best

Mulch **SHOULD NOT** be:

- Grass Clippings
- Pure bark or beauty bark





# USING THE GUIDE FOR RAIN GARDENS

## *Watering*



### Common questions:

- How often?
- How much?
- What methods should I use?

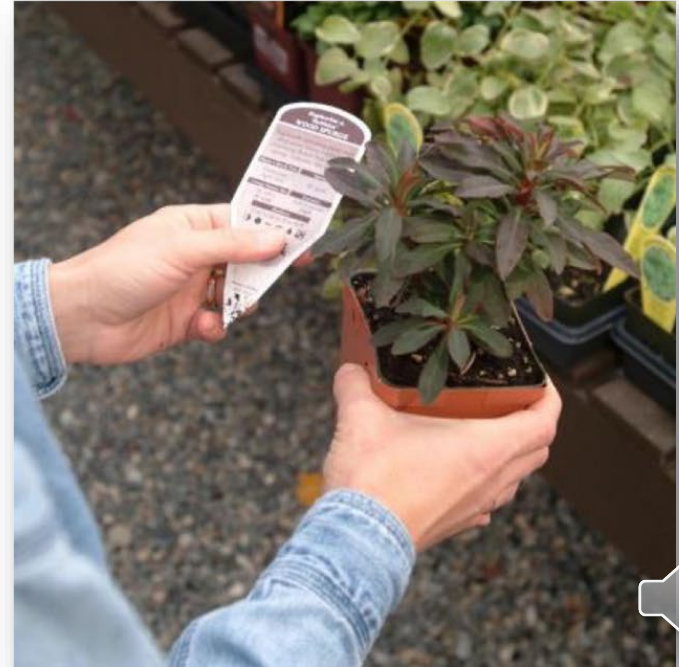


# LESS FREQUENT CARE

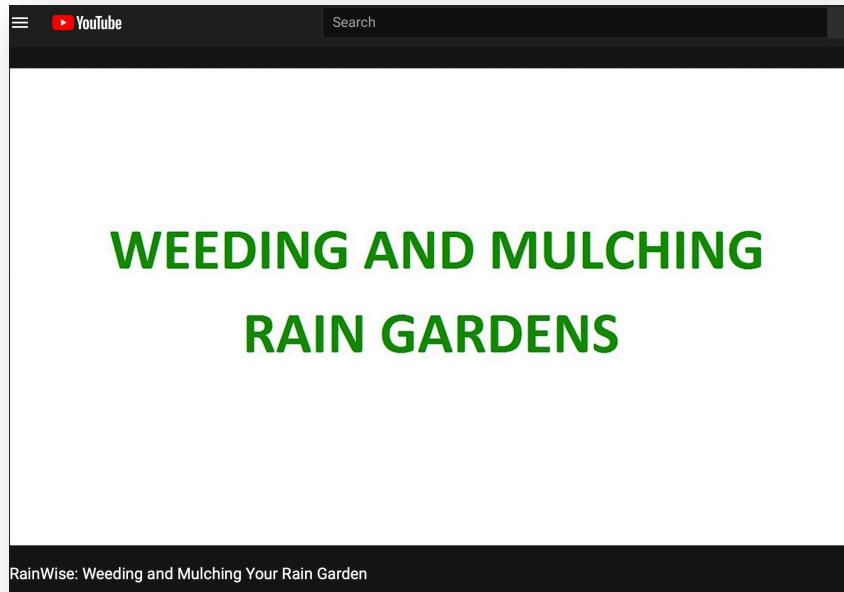
Picking up litter



Replacing plants



# WHEN MOVING PICTURES ARE BETTER...



*Share this video link with your customers!  
[700milliongallons.org/rainwise/maintenance](https://700milliongallons.org/rainwise/maintenance)*



# PLANTING PLANS TO MATCH DIFFERENT CONDITIONS

## Sun

rain garden planting plan

0.5 inch = 1 ft

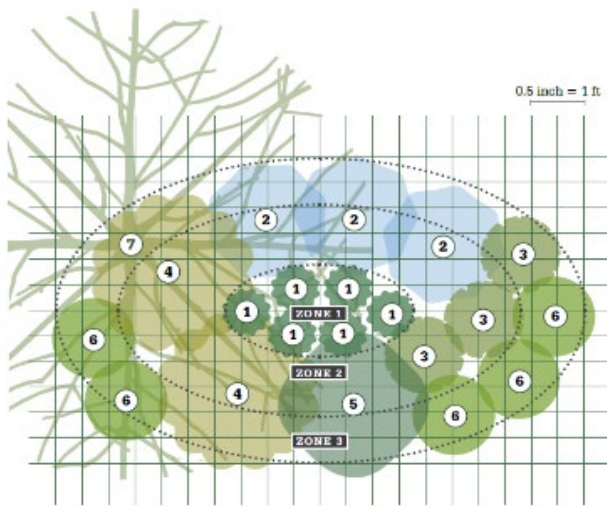


Use this scaled drawing (0.5" = 1') to understand how far apart to space plants and allow for their mature size.

## Part Shade

rain garden planting plan

0.5 inch = 1 ft

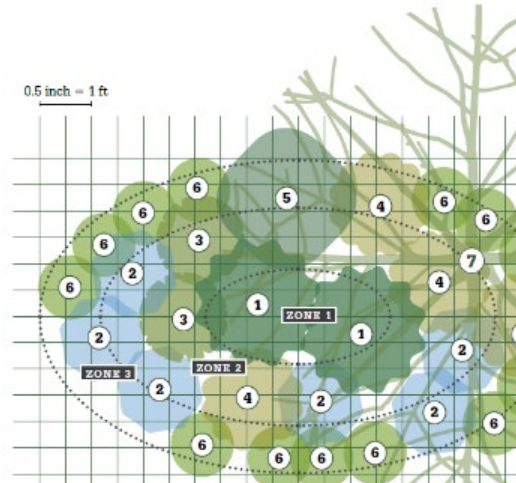


Use this scaled drawing (0.5" = 1') to understand how far apart to space plants and allow for their mature size.

## Shade

rain garden planting plan

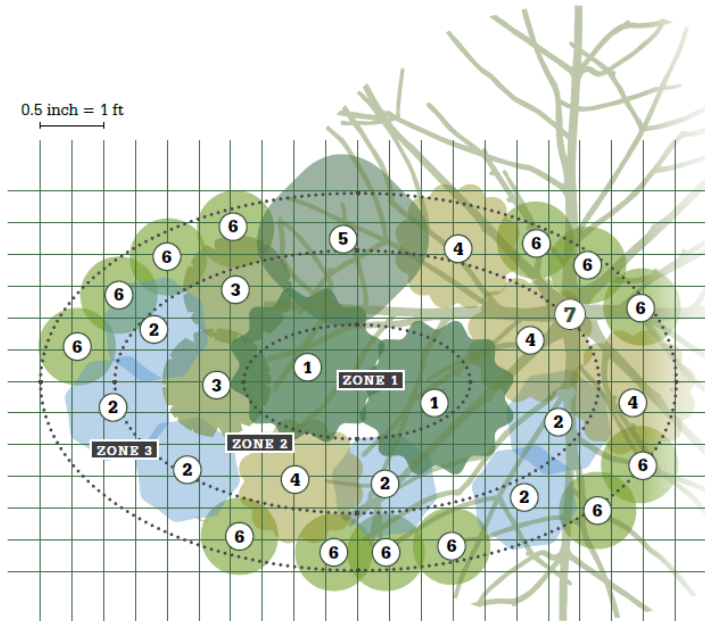
0.5 inch = 1 ft





# CHOOSING AND ARRANGING PLANTS

## Shade rain garden planting plan



Choose one plant species from each of the categories below to repeat as the plan shows

E=Evergreen

**1** Small-Fruited Bulrush *Scirpus microcarpus* (E)  
**Alternatives:**  
 Slough Sedge *Carex obnupta* (E)  
 Sweet Flag *Acorus gramineus* 'Ogon' (E)

**2** Compact Oregon Grape *Mahonia nervosa* (E)  
**Alternatives:**  
 Creeping Oregon Grape *Mahonia repens* (E)  
 Youth on Age *Tolmiea menziesii*

**3** Salal *Gaultheria shallon* (E)  
**Alternatives:**  
 Evergreen Huckleberry *Vaccinium ovatum*  
 Oregon Grape *Mahonia aquifolium* (E)

**4** Western Sword Fern *Polystichum munitum* (E)  
**Alternatives:**  
 Deer Fern *Blechnum spicant* (E)  
 Asian Saber Fern *Polystichum neolobatum* (E)

**5** Evergreen Huckleberry *Vaccinium ovatum* (E)  
**Alternatives:**  
 Sweet Box *Sarcococca confusa* (E)  
 Salal *Gaultheria shallon* (E)

**6** Inside-Out Flower *Vancouveria hexandra* (E)  
**Alternatives:**  
 Youth on Age *Tolmiea menziesii*  
 Fringecup *Tellima grandiflora*

**7** Vine Maple *Acer circinatum*  
**Alternatives:**  
 Hogan Western Redcedar *Thuja plicata* 'Hogan' (E)  
 Shore Pine *Pinus contorta contorta* (E)



# USING PICTURES TO HELP YOUR CUSTOMER

 	 	 
<b>ZONE 2</b> <b>ZONE 3</b> 4 Western Sword Fern <i>Polystichum munitum</i> (E)	4 Deer Fern <i>Blechnum spicant</i> (E)	4 Asian Saber Fern <i>Polystichum neolobatum</i> (E)
 	 	 
<b>ZONE 2</b> <b>ZONE 3</b> 5 Evergreen Huckleberry <i>Vaccinium ovatum</i> (E)	5 Sweet Box <i>Sarcococca confusa</i> (E)	5 Salal <i>Gaultheria shallon</i> (E)
 	 	 
<b>ZONE 3</b> 6 Inside-Out Flower <i>Vancouveria hexandra</i> (E. semi)	6 Youth on Age <i>Tolmiea menziesii</i>	6 Pinecup <i>Tillima grandiflora</i>
 	 	 
<b>ZONE 3</b> <b>TREE</b> 7 Vine Maple <i>Acer circinatum</i>	<b>TREE</b> 7 Hogan Western Redcedar <i>Thuja plicata</i> 'Hogari' (E)	<b>TREE</b> 7 Shore Pine <i>Pinus contorta contorta</i> (E)



# ENCOURAGING YOUR CREATIVITY

## Plant List

See Plant List Legend on page 2 for terms and abbreviations

Common Name Scientific Name	Zone			D or E	Native	Exposure			Mature Size		Comments GPP = Great Plant Picks ( <a href="http://www.greatplantpicks.org">www.greatplantpicks.org</a> )	
	1	2	3			Sun	Partial	Shade	Height	Width		
<b>Plants less than 2'</b>												
<i>Abelia x grandiflora</i> dwarf cultivars Prostrate Abelia		2	3	E (Semi)		○	◐		18" – 24"	4'		
<i>Acorus gramineus</i> and cultivars Sweet Flag	1			E			◐	●	6" – 24"	12"	GPP. Cut to the ground in late winter to encourage filling in.	
<i>Arctostaphylos uva-ursi</i> 'Vancouver Jade' Vancouver Jade Kinnikinnik			3	E	N	○			6"	5'	Native ground cover.	
<i>Blechnum Spicant</i> Deer Fern	1	2	3	E	N		◐	●	24"	24"	GPP. Tolerant of occasional flooding.	
<i>Camassia quamash</i> Common Camas	1	2	3	D	N	○	◐		18" – 24"	12"	Native bulb with beautiful blue flower spike in spring. May self-seed. Drought-tolerant & dies down in summer.	



# DESIGN FOR MAINTENANCE: COMMON ISSUES

Complaint	Response
"I thought a rain garden was no maintenance"	<ol style="list-style-type: none"><li>1. Rain gardens require maintenance just like any other garden.</li><li>2. When the plants get established, homeowners do not need to water as often.</li><li>3. There is the option to choose plants that are lower maintenance as well.</li></ol>
"All my plants are dead"	<ol style="list-style-type: none"><li>1. It could be the soil condition is not ideal (too sandy, no nutrients, too dry, etc.). Or maybe the area is too shady for light conditions.</li><li>2. Or the wrong type of plant was planted in the zone areas.</li><li>3. Always remember, a newly planted rain garden needs to be watered.</li><li>4. Replant and mulch, but research site conditions.</li></ol>





# DESIGN FOR MAINTENANCE: COMMON ISSUES

## *Buried or Blocked Inlet*

- A blocked inlet into the rain garden can cause water to back up and flood along the house foundation (this is very bad)
- Make sure inlet is exposed and reinforced with cobble
- Regularly check to make sure the inlet is kept open



A Bullrush root had grown up the inlet pipe!



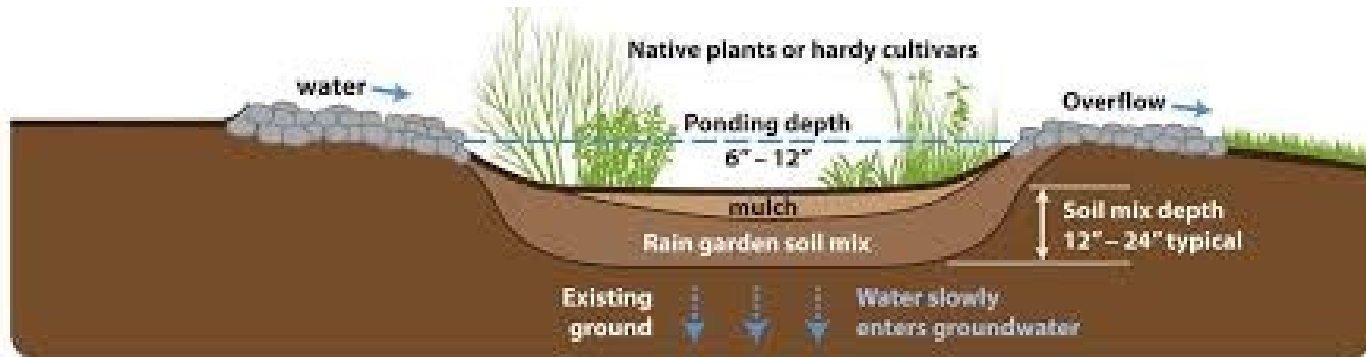
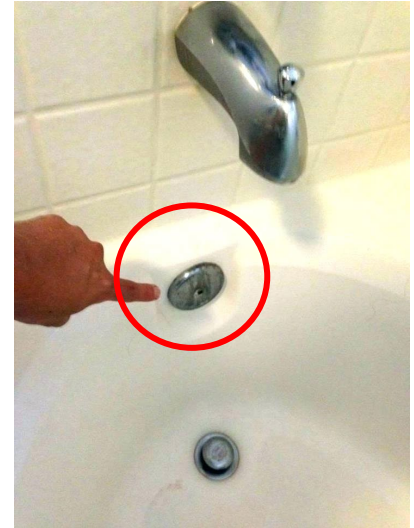
The inlet is not even visible in this photo!



# DESIGN FOR MAINTENANCE: COMMON ISSUES

## *Don't build the Outlet Higher than the Inlet*

- If the outlet (overflow) is higher than the inlet, then the rain garden could flood in a torrential downpour (think about a bathtub's overflow)
- Dig out the outlet, reinforce with cobble
- When building a rain garden, always make sure the overflow is built according to RainWise specifications



# DESIGN FOR MAINTENANCE: COMMON ISSUES

## *Erosion*

Erosion happens when rainwater, wind, or other processes (like dogs digging) expose and wear away the topsoil

- Add more mulch
- Add more plants
- If erosion happens, dig out the rain garden and reinforce berm with the dug out soil
- When building the rain garden, make sure there is enough soil depth according to RainWise specifications



**Mulch:** Put mulch, such as woodchips, on the soil's surface.



More mulch can be added here to cover bare patches

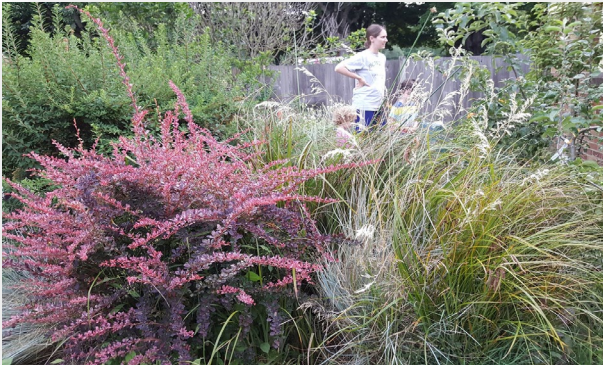




# DESIGN FOR MAINTENANCE: COMMON ISSUES

## *Overcrowding*

- Overgrown plants need to be thinned out (trimmed back or divided)
- Too many weeds can overwhelm and shade out rain garden plants
- Overcrowding can prevent a rain garden from draining well
- Plants that are too tall can block views and visibility; use plants that only grow to be 3' tall



Before: These rain garden plants are too tall!



Before: These rain garden plants have grown together too closely!



After: these rushes and sedges were divided and given space to grow





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| Q&A