

Tackling Watering Challenges in an Existing Landscape



Evolution of Irrigation Systems



Modern Sophisticated Systems



Holistic Approach to Water Conservation


- Evaluating the needs of existing plant material
- Renovating landscapes to be more drought tolerant
 - Soil, plants, mulch
- Upgrading irrigation clocks and systems
- Tracking water usage
- Limiting the use of water features



Water Features



Unplanned Water Features



Swedish Campus Overview

- Issaquah: 18 acres
- Cherry Hill: 8 acres
- First Hill: 12 acres



• Issaquah

- New landscape in 2011
- Landscape design relies heavily upon natives
- Problems with installation
- Plant selection issues- Katsuras in parking islands
- Contractors maintain landscape & irrigation



• Cherry Hill

- Archaic clocks
- Barren landscapes/ old horticultural practices
- Ancient systems
- Shared meters with the management company
- Contractors maintain landscape & irrigation



• First Hill

- Old systems
- 1970's landscaping
- Established landscapes severely overwatered
- Lots of pots to be hand watered- 29
- Combinations of drip and sprinklers in the same zone
- Limited staffing
- Irrigation is mainly contracted out




LANDSCAPE RENOVATIONS FOR WATER CONSERVATION



- Establish priority areas
- Renovations- soil, plant selection, upgrading irrigation systems...
 - Immediately within the existing budget
 - 5-year plan for larger projects
- Mulch
 - Bare soil areas in landscapes that won't be immediately renovated
 - Existing landscaped beds
- Limit the use of annuals
- Remove ornamental pots

Landscaping changes

- **Issaquah**
 - Incorporating perennials
 - Mulching
 - Replacing Katsura trees
 - Filling in bare spaces/ replacing specific plant selections



- **Cherry Hill**
 - Priority areas targeted for re-landscaping
 - Mulching bare areas
 - Changing irrigation clocks
 - SPU rebate for upgrades
 - Monitoring times and schedules




- **First Hill**
 - Renovated main entrance beds
 - Removed pots- 3 remaining
 - Documented clocks & shutoffs
 - Made upgrades to clocks and systems
 - Obtained SPU rebates




Main Entrance beds							
Shut off: Heath B Fl, through door on left; before garage, 2 key, in panel at far end							
Clock: In storage room off front driveway							
Type: Irritol Total Control							
Zones	Past times	Current times	M	T	W	Th	F
1) Broadway street trees	3x 20						
2) Tropical Garden	2x 70	30	x			x	
3) Heath driveway beds	3x 20	20	x			x	
4) Sidewalk yew bed	2x 70						
5) Middle driveway bed	2x 70	25	x			x	
6) Ivy beds, S garage entry/exit	2x 70						
7) Azaleas along East wall	2x 20						
8) Corner Cherry & Bway shrub bed	2x70						

Tough Love

- All landscapes aren't created equal...



Carl Linnaeus Tribute and Healing Garden




Water Needy Established Landscapes



Street Trees, Dormant Lawns and Ivy Beds




Oops!




Tracking Water Usage: Water Number Definitions

- Water is measured in centum cubic-feet (ccf)
- Centum is Latin for one hundred
- 1 ccf= 100 cubic feet= 748 gallons of water



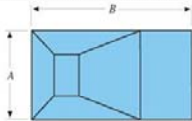
Water- Little Gnome Facts

- 1 gallon bottle of water = \$3.79
- 20 ounce bottle of water = \$1.69
- In Seattle, summer rate:
1ccf (748 gallons) = \$5.15



1 ccf Pool

In-ground Rectangle Pools



Please enter your measurements in feet.


A =

B =

Shallow Depth =

Deep Depth =

Your pool contains an estimated gallons of water when full.




Sum of NET_BILLED_CONSUMPTION_NBR	Column Labels	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
HER-00091680-1		1	0	1	10	41	131	262	386	342	160	51	0	1385
1069018		1	0	1	10	41	131	262	386	342	160	51	0	1385
SICD		1	0	1	10	41	131	262	386	342	160	51	0	1385
2004								55	55	25	3	9	0	147
2005		0	0	0	9	3	17	39	45	49	22	9	0	193
2006		1	0	1	0	4	21	29	33	43	25	25	0	182
2007		0	0	0	0	20	24	20	50	47	21	0	0	182
2008		0	0	0	0	0	44	47	72	27	28	3	0	221
2009		0	0	0	0	13	11	42	37	34	21	3	0	161
2010		0	0	0	0	0	14	21	49	63	22	2	0	171
2011		0	0	0	1	1	0	3	30	32	18	0	0	85
2012		0	0	0	0	0	0	6	15	22				43

Water Savings at First Hill


Seattle rainfall: May- Sept.	2009	2010	2012
	6.9"	11"	6.1"

Swedish irrigation- FH	ccf	gallons	cost
2009	995	744,260	\$5,124
2010	740	553,520	\$3,811
2012	207	154,836	\$1,066




600,000 gallons of water equals...

- the amount of water per second over Niagara Falls
- a full Olympic-size pool (164' x 82' x 6')
- how much one acre of corn needs to yield 200 bushels



Additional Savings- SPU Rebates

- Changing clocks & irrigation systems
 - Cherry Hill- \$4,000
 - First Hill- \$2,000



Keeping Puget Sound Green, One Landscape at a Time!

