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

**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: 1 ccf (748 gallons) = $5.15

1 ccf Pool

In-ground Rectangle Pool
A =
B =
Shallow Depth =
Deep Depth =

Your pool contains an estimated \( \text{gallons of water when full} \)
### Sum of NET_BILLED_CONSUMPTION_NBR Column Labels

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<th>Feb</th>
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<th>Apr</th>
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<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
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### Water Savings at First Hill

#### Seattle rainfall: May–Sept.

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<th>Year</th>
<th>2009</th>
<th>2010</th>
<th>2012</th>
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<tr>
<td>Rainfall</td>
<td>6.9”</td>
<td>11”</td>
<td>6.1”</td>
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#### Swedish irrigation - FH

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<th>Year</th>
<th>ccf</th>
<th>gallons</th>
<th>Cost</th>
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<tr>
<td>2009</td>
<td>995</td>
<td>744,260</td>
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<td>2010</td>
<td>740</td>
<td>553,520</td>
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<td>2012</td>
<td>207</td>
<td>154,836</td>
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### 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!

- 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