Long-term Resource Efficiency Impacts - Landscape Design Phase

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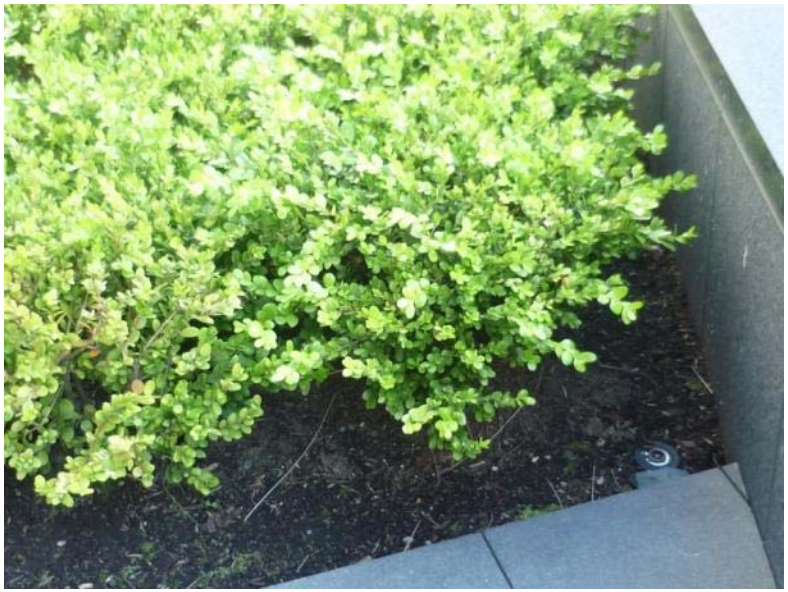
www.savingwater.org

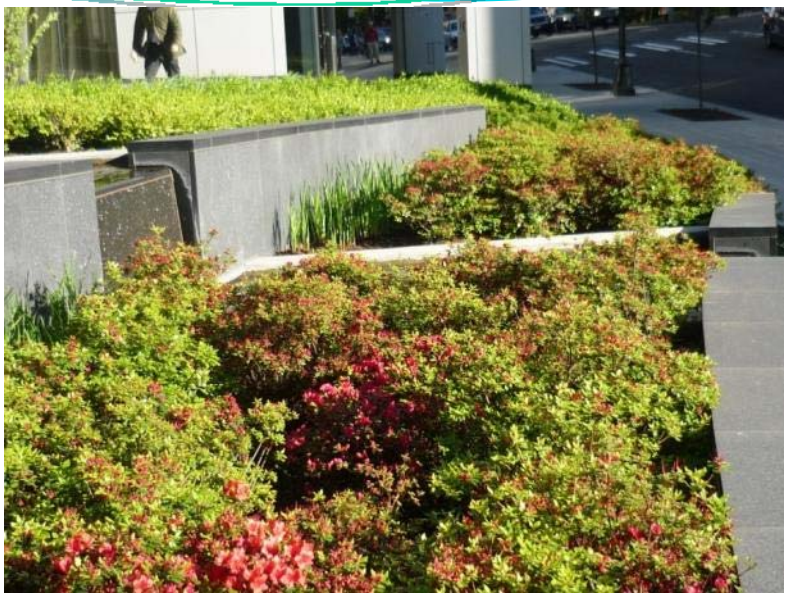
Saving Water Partnership
Seattle and Participating Local Water Utilities

Landscape/Irrigation Water Conservation

- It’s complex
  - Human element
  - Nature

COMPACT





STOP
BENHAM

8TH AVE
STOP
BURNHAM

URBAN
STORAGE
NOW
OPEN
30

The Design Phase – Resource Impacts

- Landscape costs
- Design Phase
- Case Studies
- Landscape and Irrigation Design Guidelines

ETHAN ALLEN
LA-Z-BOY
ETHAN ALLEN
HOME INTERIORS

Water Costs

How much water/money does an irrigation system waste?

Peak Usage (May 16th - Sept. 15th)
1 CCF = 748 Gallons

$4.49 per CCF - in Seattle

$5.11 per CCF - outside Seattle

Resource Costs

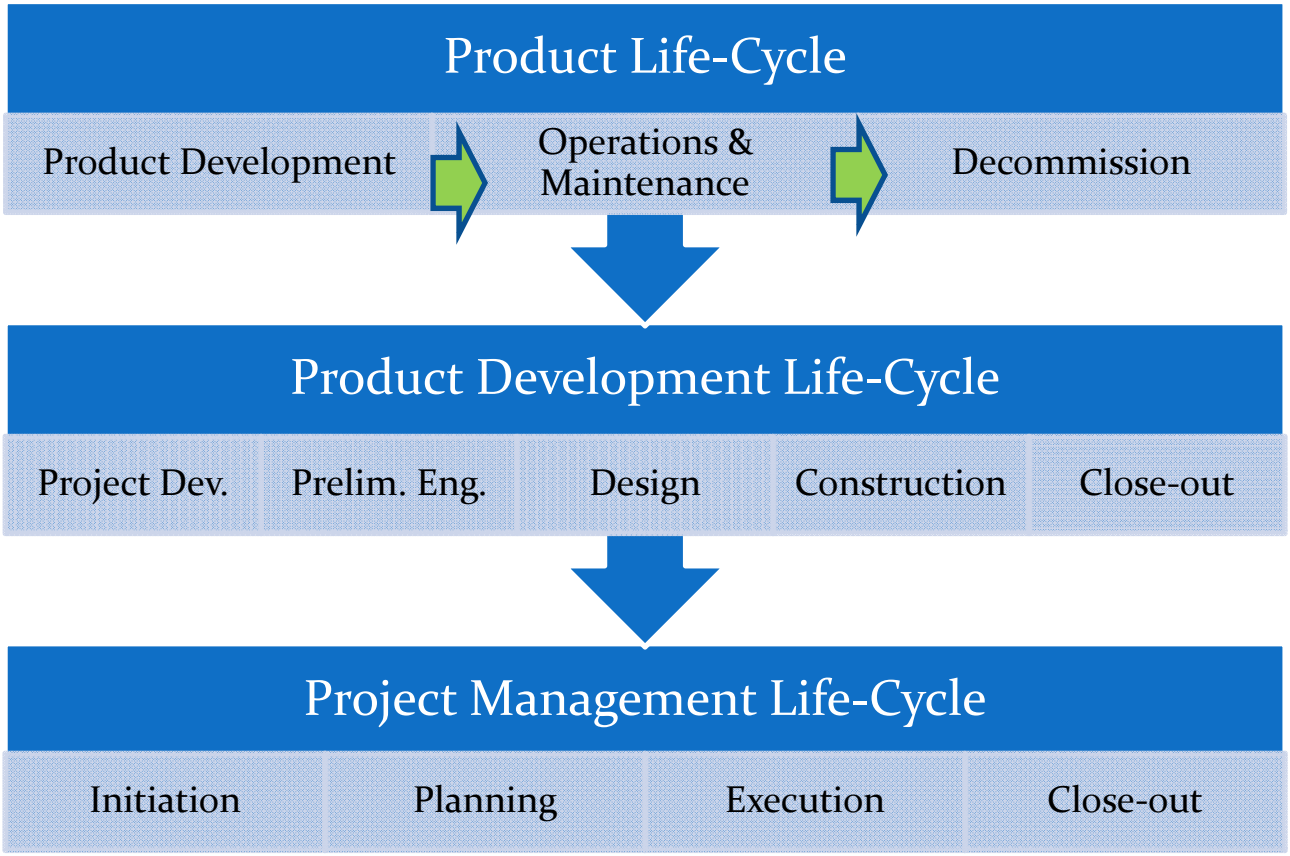
- Water – irrigation
- Solid Waste – prunings, grass clippings
- Drainage – impervious surfaces, compacted soils
- Labor – mowing, pruning, weeding, repair, management
- Plants
  - Maintenance – fertilizing, pest management, mulching, aeration, dethatching, reseeding, pruning
  - Landscape repair – dead plants, brown spots
- Soil – mulching, weeding
- Hardware replacement – irrigation, machinery
- Fuel – power tools, transportation
- Environmental - CO_2 emissions

Design Phase

- Impacts to resources?
  - The Design
    - Efficient irrigation technologies
    - Plant choice and location
    - Soil specs
  - The Design Process
    - Project Management/Delivery
      - Steps to implementation

Elements of Successful Project Delivery

- The 3 Key Life-Cycles in Project Delivery



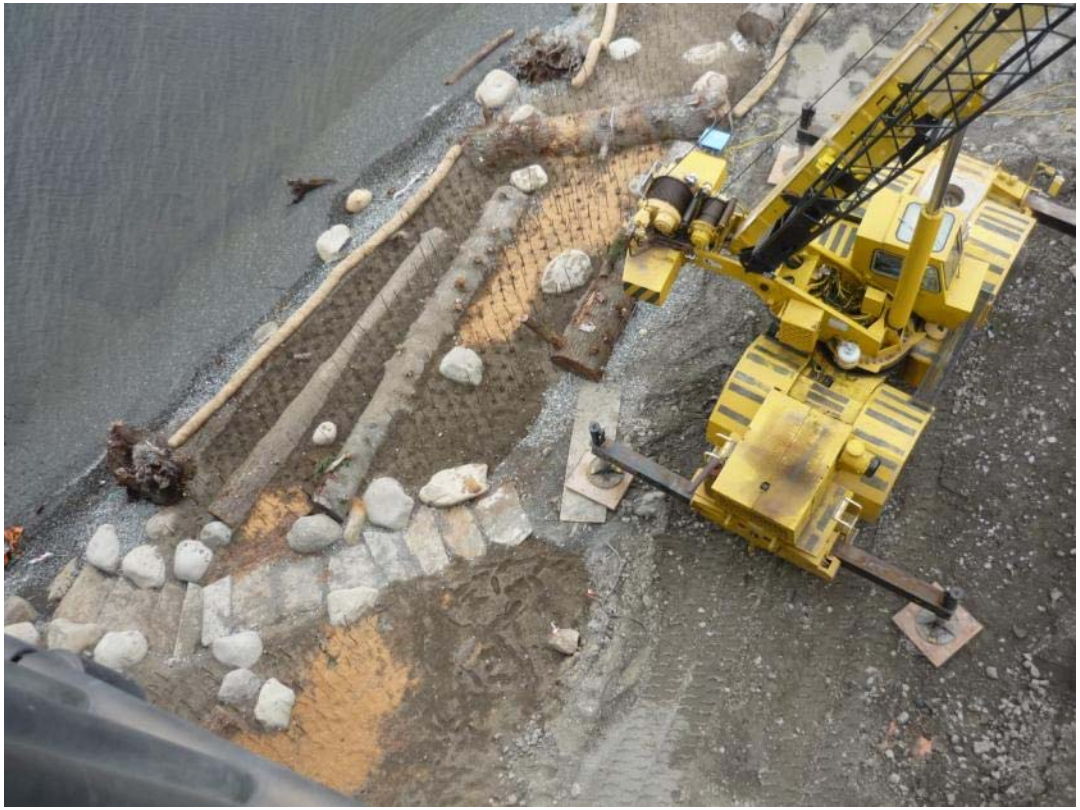
3 Case Studies

- West Lid Park and the City of Mercer Island Parks Department
- Nakamura Court House
- City Hall & Ballard Library Greenroofs

City of Mercer Island Parks Department

Example:

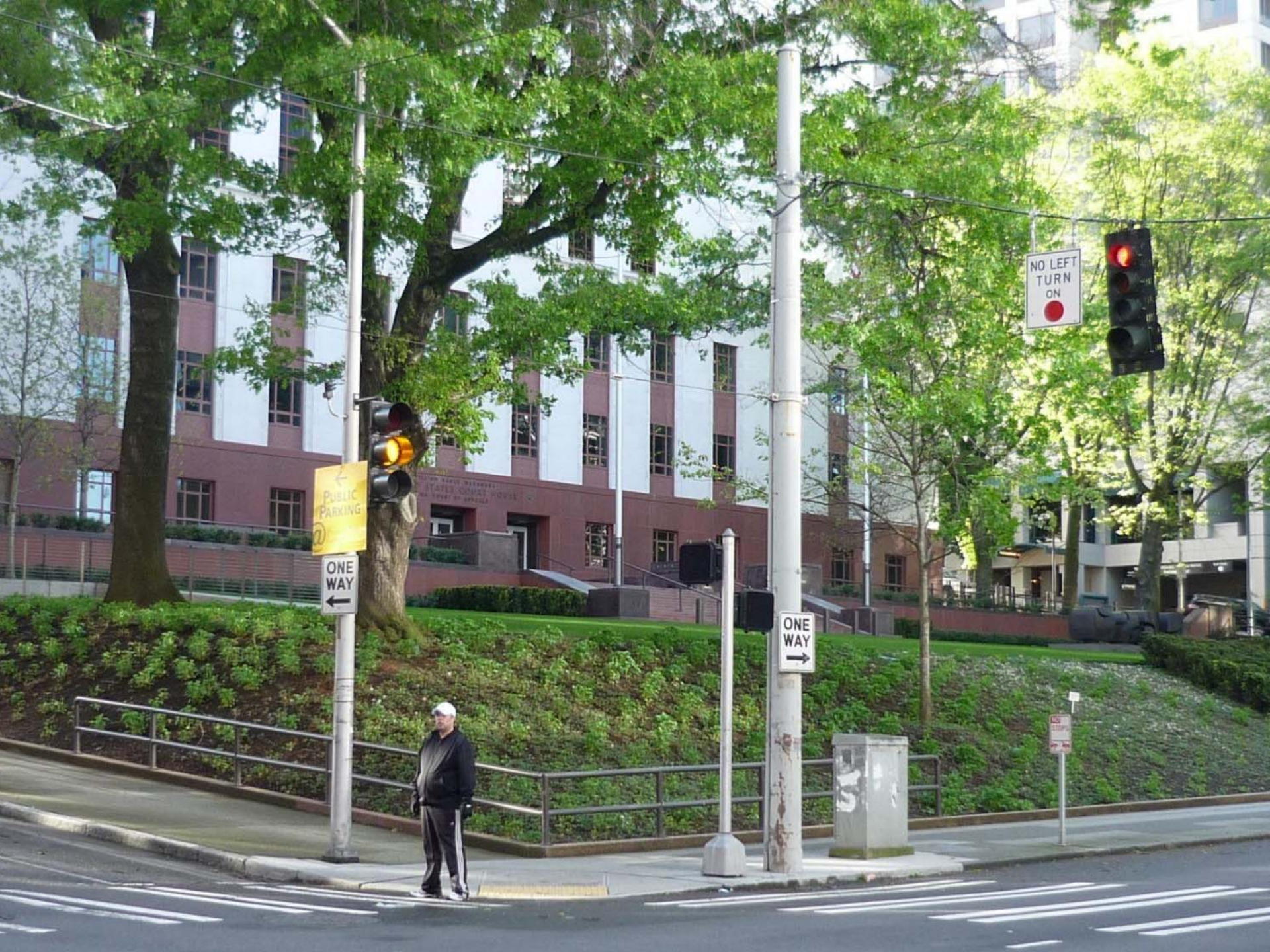
Parks Manager happened to see the landscape design before it was finalized



West Lid Park – New shoreline restoration project and pump station

Original LA Plan	Intervention
Regular nozzles	MP Rotator nozzle instead of
Heads	More durable, leak resistant heads – tested in field
Regular controller	Added controller that could connect to central
Regular valves	Added scrubber valves
Quick cupplers @ shore for occasional watering – install	Install permanent in-ground system for less labor
Class 200 pipe on laterals	Use Schedule 40 – more durable
	Added flow sensors

Nakamura Courthouse


NO LEFT
TURN
ON
PUBLIC
PARKING
ONE
WAY
ONE
WAY

•Example:

- Plant selection inconsistent with tenant’s exceptions of landscape esthetic - plants didn’t grow fast enough
- Poor Plant Choice for shady areas
- Poor installation
- No mulch – exposed soil compacted from rain and weeding
- Facilities staff not trained to use irrigation technology
- No maintenance plan
- Horticultural decisions being made by people with low to moderate plant knowledge

City Hall & Ballard Library Greenroofs

City Hall & Ballard Library Greenroofs

- Example:
  - Relatively new to the PNW
  - Temporary irrigation resulting from LEED
  - Irrigation not sufficient to establish plant material
  - No maintenance plans

Guidelines for Resource Efficient Landscapes

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