

DESIGN TO MAINTENANCE REALITY

A Partnership, Case Study and Work In Progress

NAKANO ASSOCIATES with Urban Forestry Services, Inc.

Design to Maintenance Reality

The changing face of landscape design

Green Factor, Built Green, LEED

Sustainability & Environmental Functions

A different aesthetic

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Naturalized shrub beds



Filtera Systems



Rain gardens

Case Studies:

- Veterans Administration
- King County Housing Authority Sites



Clients and owners not yet adapted to new concepts

Accustomed to old habits of “mow & blow”

Landscape and plant knowledge lacking

Limited resources



Working Toward a Better Outcome





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The Results can be Disastrous

- A new 'sustainable' building project at American Lake.
- A great LEED project.
- Completely dismantled.





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People Grow Attachments to Their Landscapes:



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Study Synopsis:

Veterans Administration

- Lack of knowledge relating to sustainable landscapes.
- Resulting in failure and drastic measures.
- Desire to have maintenance input at design phase.
- Strong design for low maintenance.

King County Housing Authority Sites

- High use sites.
- Staff organization and old maintenance habits.
- Desire for getting answers for correct landscape maintenance.

Is there a magic formula?

Meeting the Needs of the Client:

Goes beyond design, plant selection, and sustainable design principles.

Biggest Challenges:

Getting everyone on the same page.

Getting the word to everyone who counts.

Getting correct implementation of BMP's.

On-going staff training.

Old habits die hard.

Developing a landscape maintenance manual and program to

Protect the owners investment.

Optimize results utilizing limited resources.

Make sense of what to do when.

Avoid costly mistakes.

Interdisciplinary approach between landscape architecture and arboriculture.

The power of collaboration for creative solutions to effective landscape management.

Protecting the investment in retained trees & new plantings.



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Site specific information where general standards won't do:

Worksheets.

Easy to use in the field.

Match office spreadsheets.

Tool lists.

Plant identification: type and care requirements.

Maintenance techniques for site specific features:

Mitigation areas, rain gardens, Filterras, cisterns.

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How to tell which are weeds?



Canary reed grass
invading rain
garden.

7 Simple Ways to Promote Successful Sustainable Landscapes

... and Protect Your
Landscape from Ruin

1 Use Wood Chip Mulch



Schedule mowing to match how fast grass is growing and cut no more than 1/3 of the grass height at a time.

It will:

- Reduce weeds.
- Keep moisture in.
- Protect and condition the soil.
- Improve plant health.
- Make pulling weeds easier.

4 Water deeper and less often

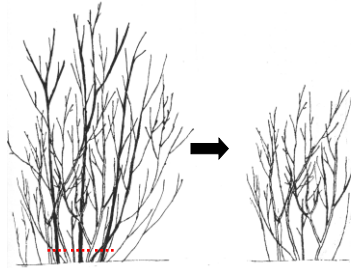
Give the ground a slow deep soaking and let it dry slightly before watering again.



It will:

- Promote deeper roots on all plants.
- Improve soil condition as it shrinks and swells.
- Use less water in the long run.

5 Prune trees and shrubs to natural form.



How:

Prune shrubs and trees to match their **natural shape**.

This means no rounding over, topping, or shearing.

It will:

- Maintain good appearance.
- Keep plants healthy.
- Take less work in the long run.

Client education on common pitfalls:



Natural form



Rounded over



Point of No
Return!

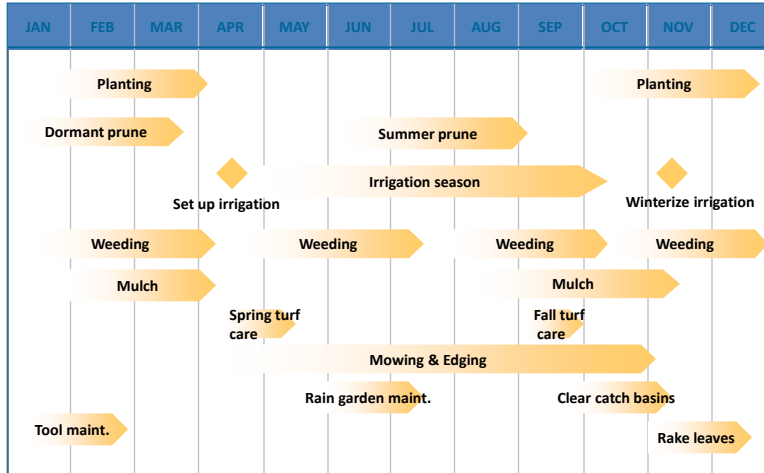


Die back after repeated rounding over.



Lower branches die out.

Timing is everything!




Workers have clear information to guide their efforts.

The Program Manual and Best Management Practices pages inform staff of:

- What to do.
- How to do it.
- When to do it.


How to trouble-shoot and solve common problems. Where to get more information.

A. Turf is moderately thin:




1. Mow.
2. Lightly rake (hard rake, power rake) to loosen the soil surface.
3. Over-seed with a PNW blend of perennial ryegrass and turf-type fescue. Rate: 6# / 1,000 square feet.
4. Rake (hard rake or chain link drag rake) to settle seed into soil.

B. Turf is thin and soil is compacted and/or clover is very dense:



1. Mow.
2. Over-seed with a PNW blend of perennial ryegrass and turf-type fescue. Rate: 6# / 1,000 square feet.
3. Spread 1/4" to 1/2" deep compost and rake out so the grass blades stand up through it.
4. Use a core aerator. Make two passes in opposite directions.
5. Rake (hard rake or chain link drag) out the cores after they have dried out enough to readily crumble.

C. Turf is thin and/or thatch is 1/2" or more



1. Mow.
2. Use a power rake / de-thatching machine. Make at least two passes in opposite directions.
3. Over-seed with a PNW blend of perennial ryegrass and turf-type fescue. Rate: 6# / 1,000 square feet.
4. Rake (hard rake or chain link drag rake) to settle seed into soil.

Urban Forestry Services, Inc. September 2013

Administrative Benefits

Ready to use spreadsheets & task lists.

Organized information for budget planning.

Info for cost-benefit analysis.

BIRCH CREEK APARTMENTS LANDSCAPE MAINTENANCE ESTIMATING WORKSHEET

A ITEM OR AREA	B ACTIVITIES	C AREA MEASUREMENT	D MINUTES/UNIT	E TOTAL MINUTES	F FREQUENCY BY MONTH												G TOTAL PERIOD	H HOURS PER YEAR	I COMTRACTS
					JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC			
I. Lawn																			
Mow riding mower 54" deck		22,870	6	137		2	4	4	4	4	3	2	3	3		26	67		
Edge walk						1	1	1	1			1	1			6	0		
liner feet																			
Corn aerate - 10" deck		22,870	5	114			1			1		1				3	6		
General Areas																			
Mow/trim/edge 54" deck		22,870	6	29											2	2	1		
Mow - push mower 50" deck		226,277	6	1352		2	4	4	4	4	3	2	3	3		26	663		
Mow - push mower 27" deck		79,083	5	378		3	4	4	4	4	3	2	3	3		26	166		
Edge walk						1	1	1	1			1	1			6	0		
liner feet																			
Mow - riding tractor		10	0													4	0		
Corn aerate 10" deck areas		100,123	5	501			1			1		1				4	0		
Mow/trim/edge 54" deck		226,277	6	1352											2	2	46		
Mow/trim/edge 54" deck		79,083	5	378											2	2	13		
Blow & pick up leaves from non-paved areas															1	2	3	0	
Leaf removal																			
Trim and edges along buildings		6,435	5	47											1	1	1		

Management Benefits

More efficient scheduling of staff time.

Decrease time in reactive mode.

Established standards for informed inspections.

Standards for KCHA staff *and* contracted maintenance.

Inspection Date: _____

ITEM	LOCATION	DESCRIPTION	PRIORITY	DATE COMPLETED

BIRCH CREEK APARTMENTS

Huge results with effective preventive maintenance:



Planted 2010



2011 – weekly weedeater & irrigation



2013 - exceptional plant establishment and inspection results

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Keeping staff trained and informed.



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MAY 2012 – Overwatering and rapid turf decline.



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MAY 2012 – Field instruction for BMP's to correct & maintain



- De-thatch
- Core aerate
- Over seed
- Correct mowing height
- Adjust & monitor irrigation



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OCTOBER 2013 –
HEALTHY, USABLE PLAY FIELD
*Staff turned this field around by using best practices
for turf care & irrigation.*



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**Adjusting owner's expectations to meet
sustainable design intents:**



**Brown is the new Green for turf.
But don't let the trees wilt!**

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Old habits die hard?

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JULY 2013 –

Plants in the ground after 6 months, natural form and full bloom.



Next year –
looking to see
shrubs in solid
mass.



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FEBRUARY 2014 – Pruning Debacle

Severe pruning reduced plants to less than their specified planting sizes.

Effective design and plant selection effectively undone by one day's misguided pruning.



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100% PREVENTABLE!

Green industry professionals need to collaborate and work hard to cultivate a culture of effective maintenance for truly sustainable landscapes.

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What are your thoughts, ideas, and experiences?



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Thank you!

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www.nakanoassociates.com



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