

City of Stevenson, Washington



Downtown Street Tree Evaluation

March 2009

Prepared by

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LANDSCAPE



Associates, P. S.
ARCHITECTS

ARBORSCAPE · LTD · INC



~TREE SERVICE AND CONSULTING~

TABLE OF CONTENTS

Tree Inventory	5
Species / Condition Chart	6
City of Stevenson Tree Map	11
Future Steps	9
Appendix A: Observations	15
Appendix B: Recommended Tree List	19
Appendix C: Pruning Standards	21
Link Information – December 12, 2008	23
“Why Topping Hurts Trees”	25
ANSI A300 (Part 1) 2001-Pruning Manual	29
Appendix D: Vancouver Urban Forestry Management Plan – January 2008	43
Appendix E: Budgets	51

Tree Inventory

Location: City of Stevenson, Washington
Downtown Area: 1st and 2nd Streets between intersections of Evergreen Highway on the west and NE Frank Johns Road on the East.

Date: Trees Inventory conducted October – November 2008

Inventory:

Tree Location: The trees in the downtown area have been located and assigned a specific identification code. The code is based on the street (Position 1), direction (Position 2), and number (Position 3). For example, a tree on the northwest side of 2nd Street would be 2-NW-# with a number assigned for the specific tree starting from the southwest moving northeast. The trees are identified on the fold-out aerial photo enclosed in this report.

Location Code	Position 1 – (1-)	Position 2 – (-NW-)	Position 3 – (-##)
1-NW-##	First St	NW or SE side of street	Trees numbered from the NW
2-NW-##	Second St	NW or SE side of street	Trees numbered from the NW
R-SW-##	SW Russell Ave	SW or NE side of street	Trees numbered from the NE
L-SW-##	SW Leavens Ave	SW or NE side of street	Trees numbered from the NE

Species Code: The chart below outlines the species code used on in the Species / Condition chart as well as the botanical and common name for each species of tree used.

Species Code	Botanical Name	Common Name
ARM	<i>Acer rubrum</i> 'Armstrong'	Armstrong Red Maple
FP	<i>Fraxinus pennsylvanica</i> 'Summit'	Green Ash
HB	<i>Carpinus betulus</i> 'Fastigiata'	Pyramidal European Hornbeam
HM	<i>Acer campestre</i>	Hedge Maple
NM	<i>Acer platanoides</i>	Norway Maple
PC	<i>Pyrus calleryana</i>	Callery Pear
RM	<i>Acer rubrum</i> 'Karpick'	Red Maple
SW	<i>Salix</i> sp.	Willow
TCD	<i>Tilia cordata</i> Miller 'DeGroot'	Little Leaf Linden

Species/Condition: The following chart identifies each tree by location code, species, size, notes on the trees' condition, and remarks regarding any recommended corrective measures.

Code	Species	Size (CAL)	Condition	Remarks
1-NW-1	RM	6"	Fair	Follow up pruning in 3 years
1-NW-2	RM	6"	Fair	Follow up pruning in 3 years
1-NW-3	RM	6"	Fair	Follow up pruning in 3 years
1-NW-4	RM	6"	Fair	Follow up pruning in 3 years
1-NW-5	NM	6"	Fair	Follow up pruning in 3 years
1-NW-6	NM	6"	Fair	Follow up pruning in 3 years
1-NW-7	NM	6"	Fair	Follow up pruning in 3 years
1-NW-8	RM	6"	Fair	Follow up pruning in 3 years
1-NW-9	RM	6"	Fair	Follow up pruning in 3 years
1-NW-10	HB	6"	Fair	Follow up pruning in 3 years
1-NW-11	HB	6"	Fair	Follow up pruning in 3 years
1-NW-12	HB	6"	Fair	Follow up pruning in 3 years
1-NW-13	RM	6"	Fair	Follow up pruning in 3 years
1-NW-14	HB	6"	Fair	Follow up pruning in 3 years
1-NW-15	HB	5"	Fair	Follow up pruning in 3 years
1-NW-16	NM	5"	Fair	Follow up pruning in 3 years
1-NW-17	NM	5"	Fair	Follow up pruning in 3 years
1-NW-18	HB	5"	Fair	Follow up pruning in 3 years
1-NW-19	HB	5"	Fair	Follow up pruning in 3 years
1-NW-20	RM	5"	Fair	Follow up pruning in 3 years
1-NW-21	HM	6"	Fair	Follow up pruning in 3 years
1-NW-22	RM	5"	Fair	Follow up pruning in 3 years
1-NW-23	HM	5"	Fair	Follow up pruning in 3 years
1-NW-24	HM	5"	Fair	Follow up pruning in 3 years
1-NW-25	HM	5"	Fair	Follow up pruning in 3 years
1-NW-26	RM	5"	Fair	Follow up pruning in 3 years
1-NW-27	HM	5"	Fair	Follow up pruning in 3 years
1-NW-28	RM	5"	Fair	Follow up pruning in 3 years
1-NW-29	RM	5"	Fair	Follow up pruning in 3 years
1-NW-30	RM	1"	Poor	Follow up pruning in 3 years

1-NW-31	RM	5"	Fair	Follow up pruning in 3 years
1-NW-32	RM	5"	Fair	Follow up pruning in 3 years
Code	Species	Size (CAL)	Condition	Remarks
1-NW-33	RM	5"	Fair	Follow up pruning in 3 years
1-NW-34	RM	5"	Fair	Follow up pruning in 3 years
1-NW-35	RM	5"	Fair	Follow up pruning in 3 years
1-NW-36	RM	5"	Fair	Follow up pruning in 3 years
1-NW-37	RM	5"	Fair	Follow up pruning in 3 years
1-NW-38	RM	5"	Fair	Follow up pruning in 3 years
1-NW-39	NM	5"	Fair	Follow up pruning in 3 years
1-NW-40	RM	5"	Fair	Follow up pruning in 3 years
1-SE-1	RM	5"	Fair	Follow up pruning in 3 years
1-SE-2	RM	5"	Fair	Follow up pruning in 3 years
1-SE-3	RM	5"	Fair	Follow up pruning in 3 years
1-SE-4	RM	5"	Fair	Follow up pruning in 3 years
1-SE-5	RM	5"	Fair	Follow up pruning in 3 years
1-SE-6	NM	5"	Fair	Follow up pruning in 3 years
1-SE-7	NM	5"	Fair	Follow up pruning in 3 years
1-SE-8	NM	5"	Fair	Follow up pruning in 3 years
1-SE-9	NM	5"	Fair	Follow up pruning in 3 years
1-SE-10	RM	5"	Fair	Follow up pruning in 3 years
1-SE-11	RM	5"	Fair	Follow up pruning in 3 years
1-SE-12	NM	5"	Fair	Follow up pruning in 3 years
1-SE-13	HB	5"	Poor	Trunk injuries – Remove and replace
1-SE-14	NM	5"	Poor	Trunk injuries – Remove and replace
1-SE-15	HB	5"	Poor	Trunk injuries – Remove and replace
1-SE-16	NM	5"	Good	Follow up pruning in 3 years
1-SE-17	HB	5"	Poor	Trunk injuries – Remove and replace
1-SE-18	RM	5"	Fair	Follow up pruning in 3 years
1-SE-19	HB	5"	Fair	Follow up pruning in 3 years
1-SE-20	HB	5"	Fair	Follow up pruning in 3 years
1-SE-21	NM	5"	Fair	Follow up pruning in 3 years
1-SE-22	NM	5"	Fair	Follow up pruning in 3 years
1-SE-23	NM	5"	Fair	Follow up pruning in 3 years
2-NW-1	PC	6"	Fair	Follow up pruning in 3 years
2-NW-2	TCD	4"	Fair	Dormant oil spray on <i>Tilia cordata</i>

2-NW-3	TCD	4"	Fair	Dormant oil spray on <i>Tilia cordata</i>
2-NW-4	TCD	4"	Fair	Dormant oil spray on <i>Tilia cordata</i>
2-NW-5	TCD	4"	Fair	Dormant oil spray on <i>Tilia cordata</i>
Code	Species	Size (CAL)	Condition	Remarks
2-NW-6	TCD	4"	Fair	Dormant oil spray on <i>Tilia cordata</i>
2-NW-7	TCD	4"	Fair	Dormant oil spray on <i>Tilia cordata</i>
2-NW-8	ARM	8"	Fair	Follow up pruning in 3 years
2-NW-9	ARM	8"	Fair	Follow up pruning in 3 years
2-NW-10	ARM	8"	Fair	Follow up pruning in 3 years
2-NW-11	ARM	8"	Fair	Follow up pruning in 3 years
2-NW-12	ARM	8"	Fair	Follow up pruning in 3 years
2-NW-13	ARM	8"	Fair	Follow up pruning in 3 years
2-NW-14	FP	5"	Fair	Follow up pruning in 3 years
2-NW-15	FP	5"	Fair	Follow up pruning in 3 years
2-NW-16	SW		Fair	Follow up pruning in 3 years
2-NW-17	FP	5"	Fair	Follow up pruning in 3 years
2-NW-18	FP	5"	Fair	Follow up pruning in 3 years
2-NW-19	FP	5"	Fair	Follow up pruning in 3 years
2-NW-20	FP	5"	Fair	Follow up pruning in 3 years
2-NW-21	FP	5"	Fair	Follow up pruning in 3 years
2-SE-1	TCD	4"	Poor	Remove and Replace
2-SE-2	TCD	4"	Fair	Dormant oil spray on <i>Tilia cordata</i>
2-SE-3	TCD	4"	Fair	Dormant oil spray on <i>Tilia cordata</i>
2-SE-4	RM	5"	Fair	Follow up pruning in 3 years
2-SE-5	TCD	5"	Fair	Dormant oil spray on <i>Tilia cordata</i>
2-SE-6	TCD	5"	Fair	Dormant oil spray on <i>Tilia cordata</i>
2-SE-7	TCD	5"	Fair - Leaning	Dormant oil spray on <i>Tilia cordata</i>
2-SE-8	TCD	5"	Fair	Dormant oil spray on <i>Tilia cordata</i>
2-SE-9	TCD	5"	Fair	Dormant oil spray on <i>Tilia cordata</i>
2-SE-10	TCD	5"	Fair	Dormant oil spray on <i>Tilia cordata</i>
2-SE-11	RM	5"	Fair	Follow up pruning in 3 years
2-SE-12	RM	4"	Fair	Follow up pruning in 3 years
2-SE-13	RM	4"	Fair	Follow up pruning in 3 years
2-SE-14	NM	2"	Fair	Follow up pruning in 3 years
2-SE-15	RM	4"	Fair	Follow up pruning in 3 years
2-SE-16	TCD	5"	Fair	Dormant oil spray on <i>Tilia cordata</i>

2-SE-17	TCD	6"	Fair	Dormant oil spray on <i>Tilia cordata</i>
2-SE-18	FP	6"	Fair	Follow up pruning in 3 years
2-SE-19	FP	6"	Fair	Follow up pruning in 3 years
2-SE-20	FP	6"	Fair	Follow up pruning in 3 years
Code	Species	Size (CAL)	Condition	Remarks
2-SE-21	FP	6"	Fair	Follow up pruning in 3 years
2-SE-22	FP	6"	Fair	Follow up pruning in 3 years
2-SE-23	FP	6"	Fair	Follow up pruning in 3 years
2-SE-24	FP	6"	Fair	Follow up pruning in 3 years
2-SE-25	FP	6"	Fair	Follow up pruning in 3 years
2-SE-26	FP	6"	Fair	Follow up pruning in 3 years
2-SE-27	FP	6"	Fair	Follow up pruning in 3 years
2-SE-28	FP	6"	Fair	Follow up pruning in 3 years
R-SW-1	TCD	5"	Fair	Dormant oil spray on <i>Tilia cordata</i>
R-NE-1	TCD	5"	Fair	Dormant oil spray on <i>Tilia cordata</i>
R-NE-2	TCD	5"	Fair	Dormant oil spray on <i>Tilia cordata</i>
L-SW-1	RM	4"	Fair	Follow up pruning in 3 years

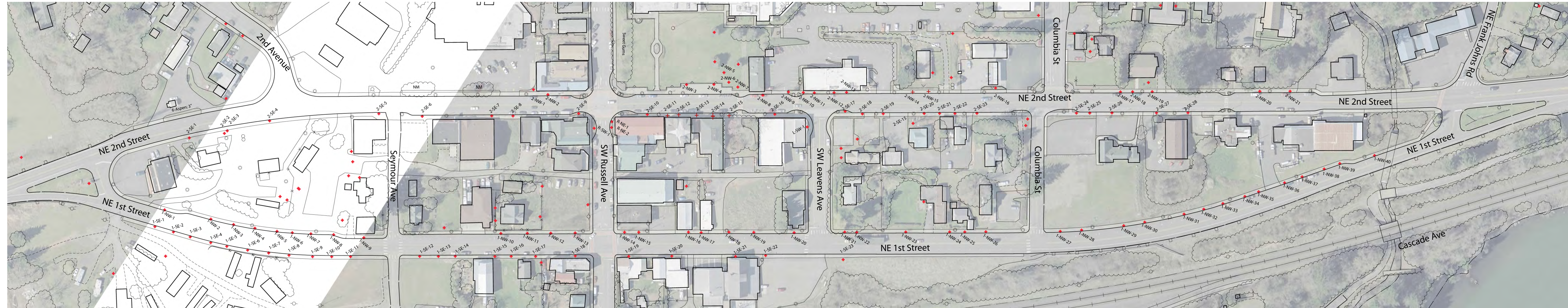
Corrective Measures:

Based on the inventory, a number of recommended corrective measures have been noted and are listed above.

Species Legend:

FP	<i>Fraxinus pennsylvanica</i> 'Summit'	Green Ash
HB	<i>Carpinus betulus</i> 'Fastigiata'	Pyramidal European Hornbeam
HM	<i>Acer campestre</i>	Hedge Maple
NM	<i>Acer platanoides</i>	Norway Maple
PC	<i>Pyrus calleryana</i>	Callery Pear
RM	<i>Acer rubrum</i> 'Karpick'	Red Maple
SW	<i>Salix sp.</i>	Willow
TCD	<i>Tilia cordata</i> Miller 'DeGroot'	Little Leaf Linden

2-SE-1: TCD	2-SE-6: TCD	2-NW-1: PC	2-SE-10: ARM	2-NW-3: TCD	2-NW-10: ARM	2-SE-17: TCD		
2-SE-2: TCD	2-SE-7: TCD	2-NW-4: TCD	2-SE-11: ARM	2-NW-4: TCD	2-NW-11: ARM	2-SE-18: FP		
2-SE-3: TCD	2-SE-8: TCD	2-NW-5: TCD	2-SE-12: ARM	2-NW-5: TCD	2-NW-12: ARM	2-SE-19: FP	2-SE-24: FP	2-NW-17: FP
2-SE-4: RM	2-SE-9: TCD	2-NW-6: TCD	2-SE-13: ARM	2-NW-6: TCD	2-NW-13: ARM	2-SE-20: FP	2-SE-25: FP	2-NW-18: FP
2-SE-5: TCD	2-SE-10: TCD	2-NW-7: TCD	2-SE-14: ARM	2-NW-7: TCD	2-NW-14: FP	2-SE-21: FP	2-SE-26: FP	2-NW-19: FP
		2-NW-8: ARM	2-SE-15: ARM	2-NW-8: ARM	2-NW-15: FP	2-SE-22: FP	2-SE-27: FP	2-NW-20: FP
		2-NW-9: ARM	2-SE-16: TCD	2-NW-9: ARM	2-NW-16: SW	2-SE-23: FP	2-SE-28: FP	2-NW-21: FP



1-SE-1: RM	1-SE-7: NM	1-NW-1: RM	1-NW-6: NM	1-SE-12: NM	1-NW-10: HB	R-SW-1: TCD	1-SE-19: HB	1-NW-14: HB	L-SW-1: RM	1-NW-21: HM	1-NW-27: HM	1-NW-32: RM	1-NW-37: RM
1-SE-2: RM	1-SE-8: NM	1-NW-2: RM	1-NW-7: NM	1-SE-13: HB	1-NW-11: HB	R-NE-1: TCD	1-SE-20: HB	1-NW-15: HB		1-NW-22: RM	1-NW-28: RM	1-NW-33: RM	1-NW-38: RM
1-SE-3: RM	1-SE-9: NM	1-NW-3: RM	1-NW-8: RM	1-SE-14: NM	1-NW-12: HB	R-NE-2: TCD	1-SE-21: NM	1-NW-16: NM		1-NW-23: HM	1-NW-29: RM	1-NW-34: RM	1-NW-39: NM
1-SE-4: RM	1-SE-10: RM	1-NW-4: RM	1-NW-9: RM	1-SE-15: HB	1-NW-13: RM		1-SE-22: NM	1-NW-17: NM		1-NW-24: HM	1-NW-30: RM	1-NW-35: RM	1-NW-40: RM
1-SE-5: RM	1-SE-11: RM	1-NW-5: NM		1-SE-16: NM			1-SE-23: NM	1-NW-18: HB		1-NW-25: HM	1-NW-31: RM	1-NW-36: RM	
1-SE-6: NM				1-SE-17: HB				1-NW-19: HB		1-NW-26: RM			
				1-SE-18: RM				1-NW-20: RM					

**City of Stevenson, Washington
Downtown Street Tree Evaluation**

March 2009

FUTURE STEPS

Trees within urban areas are an important resource to promote livability and a sustainable environment for the community. Similar to other city assets like streets and water systems, trees need to be managed and maintained. The following are steps the City of Stevenson may wish to consider in developing an Urban Tree Program.

Management:

Policies & Ordinances:

Adopt policies and ordinances to address

1. New Plantings (see recommended tree list in Appendix B)
2. Tree removal / replacements
3. Significant tree preservation

See Appendices C and D for suggested resources and/or contact John Buttrell, Arborscape, 3511 NE 109th Ave, Vancouver, WA 98682, (503) 572-6065 for additional information.

Complaint Tracking:

To better understand local concerns, all complaints should be consistently recorded. This will help to identify and prioritize issues that require remedial actions.

Maintenance:

Monitoring:

Trees should be periodically reviewed to assess any damage or horticultural changes that need to be addressed. This is particularly important after significant weather events such as high winds, ice storms, and prolonged high heat events. Reviews should also include looking for insect infestations, leaf blights, and other horticultural problems.

Pruning:

The trees that are established should be trimmed for clearance, crown cleaning, and hazard abatement. Crown cleaning is pruning to remove dead, broken, and rubbing limbs. Also, some bracing of branches by means of cabling may be needed to assist branches prone to breakage. The goal would be to prune every tree within a 5- to 10-year period.

APPENDIX A

Observations:

Arborscape Ltd. Inc. Observation Report

ARBORSCAPE LTD INC

11113 NE 95th Street
Vancouver WA 98662
866-944-8733
OR CCB # 173431
WA # ARBORLI062Q8

December 12, 2008

Walsh & Associates
2500 Main Street
Suite 210
Vancouver, WA 98660
Fax 360-696-4501, Ph 696-9890


RE: Stevenson Washington Tree Plan

Observations:

Trees have been recently pruned for clearance and general limbing up. I do not recommend additional pruning for approximately three years. The pruning cuts were well done without flush cuts, stubs or trunk injuries. The tree health is mostly fair to good with the exception being tree numbers 1-SE – 14 through 18. I am recommending the removal and replacement of these trees because of large trunk injuries. There are also leaning trees, but my opinion is that staking or bracing the tree creates more of a trip hazard and an eye sore than a leaning tree. My recommended remedy is corrective pruning in the three year follow up pruning. This would remove some of the weight on the side of the lean.

The paving around the tree trunks will need to be removed in some cases as the trunk grows in size. My recommendation is to simply remove the pavers that are in contact with the trunk. The Linden trees on 2nd Street may need paver removal as early as next year.

Prepared by:


John Buttrell
ISA Certified Arborist PN-0138a
503-572-6065

APPENDIX B

Recommended Tree List:

Botanical Name	Common Name	Size
<i>Acer capestre</i>	Field Maple (Hedge Maple)	35' H – 30' S
<i>Acer rubrum</i> 'Northwood'	Northwood Red Maple	40' H – 35' S
<i>Acer saccharum</i> 'Green Mountain®'	Green Mountain® Sugar Maple	45' H – 35' S
<i>Acer tataricum</i> 'JFS-KW2'	Rugged Charm™ Maple	25' H – 20' S
<i>Fraxinus pennsylvanica</i> 'Cimmaron'	Cimmaron Green Ash	50' H – 30' S
<i>Fraxinus pennsylvanica</i> 'Patmore'	Patmore Green Ash	45' H – 35' S
<i>Tilia Americana</i> 'Redmond'	Redmond American Linden	35' H – 25' S

APPENDIX C

Pruning Standards:

Arborscape Ltd. Inc.	December 12 Link information	23
International Society of Arboriculture	“Why Topping Hurts Trees”	25
ANSI A300 (Part 1) 2001-Pruning Manual	For <i>Tree Care Operations - Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Pruning)</i>	29

ARBORSCAPE LTD INC

11113 NE 95th Street
Vancouver WA 98662
866-944-8733
OR CCB # 173431
WA # ARBORLI062Q8

December 12, 2008

Walsh & Associates
2500 Main Street
Suite 210
Vancouver, WA 98660
Fax 360-696-4501, Ph 696-9890

Enclosed are links to the information you requested.

Ansi A300 – pruning standards http://www.tcia.org/code/gov_standards_a300.htm

Ansi 133.1-200 - safety requirements http://www.tcia.org/code/gov_standards_a300.htm

ISA Website <http://www.isa-arbor.com/home.aspx>

City of Vancouver website: http://www.cityofvancouver.us/parks-recreation/parks_trails/urban_forestry/

Prepared by:

John Buttrell
ISA Certified Arborist PN-0138a
503-572-6065

Why Topping Hurts Trees

Topping is perhaps the most harmful tree pruning practice known. Yet, despite more than 25 years of literature and seminars explaining its harmful effects, topping remains a common practice. This brochure explains why topping is not an acceptable pruning technique and offers better alternatives.

What is Topping?

Topping is the indiscriminate cutting of tree branches to stubs or lateral branches that are not large enough to assume the terminal role. Other names for topping include “heading,” “tipping,” “hat-racking,” and “rounding over.”

The most common reason given for topping is to reduce the size of a tree. Home owners often feel that their trees have become too large for their property. People fear that tall trees may pose a hazard. Topping, however, is not a viable method of height reduction and certainly does not reduce the hazard. In fact, topping will make a tree more hazardous in the long term.

Topping is cutting branches back to stubs or lateral branches not large enough to sustain the remaining branch.



New shoots develop profusely below a topping cut.

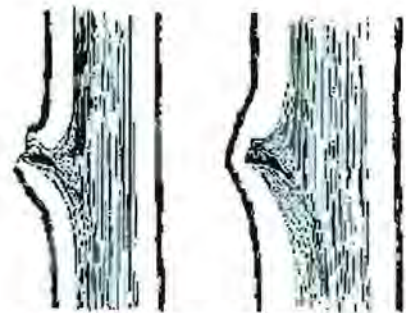
Topping Stresses Trees

Topping often removes 50 to 100 percent of the leaf-bearing crown of a tree. Because leaves are the food factories of a tree, removing them can temporarily starve a tree. The severity of the pruning triggers a sort of survival mechanism. The tree activates latent buds, forcing the rapid growth of multiple shoots below each cut. The tree needs to put out a new crop of leaves as soon as possible. If a tree does not have the stored energy reserves to do so, it will be seriously weakened and may die.

A stressed tree is more vulnerable to insect and disease infestations. Large, open pruning wounds expose the sapwood and heartwood to attacks. The tree may lack sufficient energy to chemically defend the wounds against invasion, and some insects are actually attracted to the chemical signals trees release.

Topping Causes Decay

The preferred location to make a pruning cut is just beyond the branch collar at the branch's point of attachment. The tree is biologically equipped to close such a wound, provided the tree is healthy enough and the wound is not too large. Cuts made along a limb between lateral branches create stubs with wounds that the tree may not be able to close. The exposed wood tissues begin to decay. Normally, a tree will “wall off,” or compartmentalize, the decaying tissues, but few trees can defend the multiple severe wounds caused by topping. The decay organisms are given a free path to move down through the branches.



The tree will close a well-positioned cut as new wood is produced. Normally it will compartmentalize any internal decay.

Leaving a stub maintains an open pathway to decay.



Topping Can Lead to Sunburn

Branches within a tree's crown produce thousands of leaves to absorb sunlight. When the leaves are removed, the remaining branches and trunk are suddenly exposed to high levels of light and heat. The result may be sunburn of the tissues beneath the bark, which can lead to cankers, bark splitting, and death of some branches.



Stubs left from topping usually decay. The shoots that are produced below the cut are weakly attached, and often become a hazard.

Topping Creates Hazards

The survival mechanism that causes a tree to produce multiple shoots below each topping cut comes at great expense to the tree. These shoots develop from buds near the surface of the old branches. Unlike normal branches that develop in a socket of overlapping wood tissues, these new shoots are anchored only in the outermost layers of the parent branches.

The new shoots grow quickly, as much as 20 feet in one year, in some species. Unfortunately, the shoots are prone to breaking, especially during windy conditions. The irony is that while the goal was to reduce the tree's height to make it safer, it has been made more hazardous than before.

Topping Makes Trees Ugly

The natural branching structure of a tree is a biological wonder. Trees form a variety of shapes and growth habits, all with the same goal of presenting their leaves to the sun. Topping removes the ends of the branches, often leaving ugly stubs. Topping destroys the natural form of a tree.



Without leaves (up to 6 months of the year in temperate climates), a topped tree appears disfigured and mutilated. With leaves, it is a dense ball of foliage, lacking its simple grace. A tree that has been topped can never fully regain its natural form.



Trees that have been topped may become hazardous and are unsightly.

Topping Is Expensive

The cost of topping a tree is not limited to what the perpetrator is paid. If the tree survives, it will require pruning again within a few years. It will either need to be reduced again or storm damage will have to be cleaned up. If the tree dies, it will have to be removed.

Topping is a high-maintenance pruning practice, with some hidden costs. One is the reduction in property value. Healthy, well-maintained trees can add 10 to 20 percent to the value of a property. Disfigured, topped trees are considered an impending expense.

Another possible cost of topped trees is potential liability. Topped trees are prone to breaking and can be hazardous. Because topping is considered an unacceptable pruning practice, any damage caused by branch failure of a topped tree may lead to a finding of negligence in a court of law.



If the height of a tree must be reduced, all

Alternatives to Topping

Sometimes a tree must be reduced in height or spread. Providing clearance for utility lines is an example. There are recommended techniques for doing so. If practical, branches should be removed back to their point of origin. If a branch must be

shortened, it should be cut back to a lateral that is large enough to assume the terminal role. A rule of thumb is to cut back to a lateral that is at least one-third the diameter of the limb being removed.

This method of branch reduction helps to preserve the natural form of the tree. However, if large cuts are involved, the tree may not be able to close over and compartmentalize the wounds. Sometimes the best solution is to remove the tree and replace it with a species that is more appropriate for the site.

Hiring an Arborist

Pruning large trees can be dangerous. If pruning involves working above the ground or using power equipment, it is best to hire a professional arborist. An arborist can determine the type of pruning that is necessary to improve the health, appearance, and safety of your trees. A professional arborist can provide the services of a trained crew, with all of the required safety equipment and liability insurance.



Professional arborists can determine what type of pruning is necessary to improve the health, appearance and safety of your trees.

When selecting an arborist,

- check for membership in professional organizations such as the International Society of Arboriculture (ISA), the Tree Care Industry Association (TCIA), or the American Society of Consulting Arborists (ASCA). Such membership demonstrates a willingness on the part of the arborist to stay up to date on the latest techniques and information.
- check for ISA arborist certification. Certified Arborists are experienced professionals who have passed an extensive examination covering all aspects of tree care.
- ask for proof of insurance.
- ask for a list of references, and don't hesitate to check them.
- avoid using the services of any tree company that
 - advertises topping as a service provided. Knowledgeable arborists know that topping is harmful to trees and is not an accepted practice.
 - uses tree climbing spikes to climb trees that are being pruned. Climbing spikes can damage trees, and their use should be limited to trees that are being removed.

This brochure is one in a series published by the International Society of Arboriculture as part of its Consumer Information Program. You may have additional interest in the following titles currently in the series:

E-mail inquiries: isa@isa-arbor.com

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ANSI®
A300 (Part 1)-2001
Revision of
ANSI A300-1995

American National Standard
for Tree Care Operations –

Tree, Shrub, and Other Woody Plant Maintenance –
Standard Practices (*Pruning*)

Secretariat

National Arborist Association, Inc.

Approved May 22, 2001

American National Standards Institute, Inc.

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American National Standard

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Contents

	Page
Foreword	ii
1 ANSI A300 Standards – Scope, purpose, and application	1
2 Part 1 – Pruning Standards	1
3 Normative References	1
4 Definitions	1
5 Pruning Practices	4
Figures	
5.3.2 A pruning cut that removes a branch	4
5.3.3 A pruning cut that reduces the length of a branch or stem	5
5.3.7 A final cut that removes a branch with a narrow angle of attachment	5
Annex	
A Reference publications	9

Forward (This foreword is not part of American National Standard A300 Part 1-2001.)

An industry-consensus standard must have the input of the industry that it is intended to affect. The Accredited Standards Committee A300 was approved June 28, 1991. The committee includes representatives from the residential and commercial tree care industry, the utility, municipal, and federal sectors, the landscape and nursery industries, and other interested organizations. Representatives from varied geographic areas with broad knowledge and technical expertise contributed.

The A300 standard can be best placed in proper context if one reads its *Scope, Purpose, and Application*. This document presents performance standards for the care and maintenance of trees, shrubs, and other woody plants. It is intended as a guide in the drafting of maintenance specifications for federal, state, municipal, and private authorities including property owners, property managers, and utilities.

The A300 standard stipulates that specifications for tree work should be written and administered by a professional possessing the technical competence to provide for, or supervise, the management of woody landscape plants. Users of this standard must first interpret its wording, then apply their knowledge of growth habits of certain plant species in a given environment. In this manner, the user ultimately develops their own specifications for plant maintenance.

ANSI A300 Part 1 – *Pruning*, should be used in conjunction with the rest of the A300 standard when writing specifications for tree care operations.

Suggestions for improvement of this standard should be forwarded to: NAA300 Secretary, c/o National Arborist Association, 3 Perimeter Rd. - Unit 1, Manchester, NH 03103, USA or Email: naa@natlarb.com.

This standard was processed and approved for submittal to ANSI by Accredited Standards Committee on Tree, Shrub, and Other Woody Plant Maintenance Operations – *Standard Practices, A300*. Committee approval of the standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, the A300 committee had the following members:

Tim Johnson, Chair (Artistic Arborist, Inc.)
Bob Rouse, Secretary (National Arborist Association, Inc.)

<i>Organizations Represented</i>	<i>Name of Representative</i>
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American Society of Consulting Arborists	Andrew Graham Donald Blair (Adviser) Beth Palys (Adviser)
American Society of Landscape Architects	Ron Leighton
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Name of Representative

Utility Arborist Association Jeffery Smith
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American National Standard
for Tree Care Operations –
Tree, Shrub, and Other
Woody Plant
Maintenance –
Standard Practices
(Pruning)

1 ANSI A300 standards

1.1 Scope

ANSI A300 standards present performance standards for the care and maintenance of trees, shrubs, and other woody plants.

1.2 Purpose

ANSI A300 standards are intended as guides for federal, state, municipal and private authorities including property owners, property managers, and utilities in the drafting of their maintenance specifications.

1.3 Application

ANSI A300 standards shall apply to any person or entity engaged in the business, trade, or performance of repairing, maintaining, or preserving trees, shrubs, or other woody plants.

1.4 Implementation

Specifications for tree maintenance should be written and administered by an arborist.

2 Part 1 – Pruning standards

2.1 Purpose

The purpose of this document is to provide standards for developing specifications for tree pruning.

2.2 Reasons for pruning

The reasons for tree pruning may include, but are not limited to, reducing risk, maintaining or improving tree health and structure, improving aesthetics, or satisfying a specific need. Pruning practices for agricultural, horticultural production, or silvicultural purposes are exempt from this standard.

2.3 Safety

2.3.1 Tree maintenance shall be performed only by arborists or arborist trainees who, through related training or on-the-job experience, or both, are familiar with the practices and hazards of arboriculture and the equipment used in such operations.

2.3.2 This standard shall not take precedence over arboricultural safe work practices.

2.3.3 Operations shall comply with applicable Occupational Safety and Health Administration (OSHA) standards, ANSI Z133.1, as well as state and local regulations.

3 Normative references

The following standards contain provisions, which, through reference in the text, constitute provisions of this American National Standard. All standards are subject to revision, and parties to agreements based on this American National Standard shall apply the most recent edition of the standards indicated below.

ANSI Z60.1, *Nursery stock*

ANSI Z133.1, *Tree care operations - Pruning, trimming, repairing, maintaining, and removing trees, and cutting brush - Safety requirements*

29 CFR 1910, General industry ¹⁾

29 CFR 1910.268, Telecommunications ¹⁾

29 CFR 1910.269, Electric power generation, transmission, and distribution ¹⁾

29 CFR 1910.331 - 335, Electrical safety-related work practices ¹⁾

4 Definitions

4.1 anvil-type pruning tool: A pruning tool that

ANSI A300 (Part 1)-2001 Pruning

has a sharp straight blade that cuts against a flat metal cutting surface, in contrast to a *hook-and-blade-type pruning tool* (4.21).

4.2 apical dominance: Inhibition of growth of lateral buds by the terminal bud.

4.3 arboriculture: The art, science, technology, and business of commercial, public, and utility tree care.

4.4 arborist: An individual engaged in the profession of arboriculture who, through experience, education, and related training, possesses the competence to provide for or supervise the management of trees and other woody plants.

4.5 arborist trainee: An individual undergoing on-the-job training to obtain the experience and the competence required to provide for or supervise the management of trees and other woody plants. Such trainees shall be under the direct supervision of an arborist.

4.6 branch bark ridge: The raised area of bark in the branch crotch that marks where the branch and parent meet.

4.7 branch collar: The swollen area at the base of a branch.

4.8 callus: Undifferentiated tissue formed by the cambium around a wound.

4.9 cambium: The dividing layer of cells that forms sapwood (xylem) to the inside and inner bark (phloem) to the outside.

4.10 cleaning: Selective pruning to remove one or more of the following parts: dead, diseased, and/or broken branches (5.6.1).

4.11 climbing spurs: Sharp, pointed devices affixed to a climber's boot used to assist in climbing trees. (syn.: gaffs, hooks, spurs, spikes, climbers)

4.12 closure: The process of woundwood covering a cut or other tree injury.

4.13 crown: The leaves and branches of a tree measured from the lowest branch on the trunk to the top of the tree.

4.14 decay: The degradation of woody tissue

caused by microorganisms.

4.15 espalier: The combination of pruning, supporting, and training branches to orient a plant in one plane (5.7.2).

4.16 establishment: The point after planting when a tree's root system has grown sufficiently into the surrounding soil to support shoot growth and anchor the tree.

4.17 facility: A structure or equipment used to deliver or provide protection for the delivery of an essential service, such as electricity or communications.

4.18 final cut: A cut that completes the removal or reduction of a branch or stub.

4.19 frond: A leaf of a palm.

4.20 heading: 1. Cutting a currently growing, or a 1-year-old shoot, back to a bud. 2. Cutting an older branch or stem back to a stub in order to meet a defined structural objective. 3. Cutting an older branch or stem back to a lateral branch not large enough to assume apical dominance in order to meet a defined structural objective. Heading may or may not be an acceptable pruning practice, depending on the application.

4.21 hook-and-blade-type pruning tool: A pruning tool that has a sharp curved blade that overlaps a supporting hook; in contrast to an *anvil-type pruning tool* (4.1). (syn.: by-pass pruner)

4.22 interfering branches: Crossing, rubbing, or upright branches that have the potential to damage tree structure and/or health.

4.23 internodal cut: A cut located between lateral branches or buds.

4.24 lateral branch: A shoot or stem growing from a parent branch or stem.

4.25 leader: A dominant or co-dominant, upright stem.

4.26 limb: A large, prominent branch.

4.27 lion's tailing: The removal of an excessive number of inner, lateral branches from parent

branches. Lion's tailing is not an acceptable pruning practice (5.5.7).

4.28 mechanical pruning: A utility pruning technique where large-scale power equipment is used to cut back branches (5.9.2.2).

4.29 parent branch or stem: A tree trunk, limb, or prominent branch from which shoots or stems grow.

4.30 peeling: *For palms:* The removal of only the dead frond bases at the point they make contact with the trunk without damaging living trunk tissue. (syn.: shaving)

4.31 petiole: A stalk of a leaf or frond.

4.32 phloem: Inner bark conducting tissues that transport organic substances, primarily carbohydrates, from leaves and stems to other parts of the plant.

4.33 pollarding: The maintenance of a tree by making internodal cuts to reduce the size of a young tree, followed by the annual removal of shoot growth at its point of origin (5.7.3).

4.34 pruning: The selective removal of plant parts to meet specific goals and objectives.

4.35 qualified line-clearance arborist: An individual who, through related training and on-the-job experience, is familiar with the equipment and hazards in line clearance and has demonstrated the ability to perform the special techniques involved. This individual may or may not be currently employed by a line-clearance contractor.

4.36 qualified line-clearance arborist trainee: An individual undergoing line-clearance training and who, in the course of such training, is familiar with the hazards and equipment involved in line clearance and has demonstrated ability in the performance of the special techniques involved. This individual shall be under the direct supervision of a qualified line-clearance arborist.

4.37 raising: Selective pruning to provide vertical clearance (5.6.3).

4.38 reduction: Selective pruning to decrease height and/or spread (5.6.4).

4.39 remote/rural areas: Locations associated

with very little human activity, land improvement, or development.

4.40 restoration: Selective pruning to improve the structure, form, and appearance of trees that have been severely headed, vandalized, or damaged (5.7.4).

4.41 shall: As used in this standard, denotes a mandatory requirement.

4.42 should: As used in this standard, denotes an advisory recommendation.

4.43 stub: An undesirable short length of a branch remaining after a break or incorrect pruning cut is made.

4.44 thinning: Selective pruning to reduce density of live branches (5.6.2).

4.45 throwline: A small, lightweight line with a weighted end used to position a climber's rope in a tree.

4.46 topping: The reduction of a tree's size using heading cuts that shorten limbs or branches back to a predetermined crown limit. Topping is not an acceptable pruning practice (5.5.7).

4.47 tracing: The removal of loose, damaged tissue from in and around the wound.

4.48 urban/residential areas: Locations, such as populated areas including public and private property, that are normally associated with human activity.

4.49 utility: An entity that delivers a public service, such as electricity or communications.

4.50 utility space: The physical area occupied by a utility's facilities and the additional space required to ensure its operation.

4.51 vista pruning: Selective pruning to allow a specific view (5.7.5).

4.52 watersprouts: New stems originating from epicormic buds. (syn.: epicormic shoots)

4.53 wound: An opening that is created when the bark of a live branch or stem is penetrated, cut, or removed.

ANSI A300 (Part 1)-2001 Pruning

4.54 woundwood: Partially differentiated tissue responsible for closing wounds. Woundwood develops from callus associated with wounds.

4.55 xylem: Wood tissue. Active xylem is sapwood; inactive xylem is heartwood.

4.56 young tree: A tree young in age or a newly transplanted tree.

5 Pruning practices

5.1 Tree inspection

5.1.1 An arborist or arborist trainee shall visually inspect each tree before beginning work.

5.1.2 If a condition is observed requiring attention beyond the original scope of the work, the condition should be reported to an immediate supervisor, the owner, or the person responsible for authorizing the work.

5.2 Tools and equipment

5.2.1 Equipment and work practices that damage living tissue and bark beyond the scope of the work should be avoided.

5.2.2 Climbing spurs shall not be used when climbing and pruning trees.

Exceptions:

- when limbs are more than throwline distance apart and there is no other means of climbing the tree;
- when the bark is thick enough to prevent damage to the cambium;
- in remote or rural utility rights-of-way.

5.3 Pruning cuts

5.3.1 Pruning tools used in making pruning cuts shall be sharp.

5.3.2 A pruning cut that removes a branch at its point of origin shall be made close to the trunk or parent limb, without cutting into the branch bark ridge or collar, or leaving a stub (see Figure 5.3.2).

5.3.3 A pruning cut that reduces the length of a branch or parent stem should bisect the angle between its branch bark ridge and an imaginary line perpendicular to the branch or stem (see Figure 5.3.3).

5.3.4 The final cut shall result in a flat surface with adjacent bark firmly attached.

5.3.5 When removing a dead branch, the final cut shall be made just outside the collar of living tissue.

5.3.6 Tree branches shall be removed in such a manner so as not to cause damage to other parts of the tree or to other plants or property. Branches too large to support with one hand shall be precut to avoid splitting of the wood or tearing of the bark (see Figure 5.3.2). Where necessary, ropes or other equipment shall be used to lower large branches or portions of branches to the ground.

5.3.7 A final cut that removes a branch with a narrow angle of attachment should be made from the outside of the branch to prevent damage to the parent limb (see Figure 5.3.7).

5.3.8 Severed limbs shall be removed from the crown upon completion of the pruning, at times when the tree would be left unattended, or at the end of the workday.

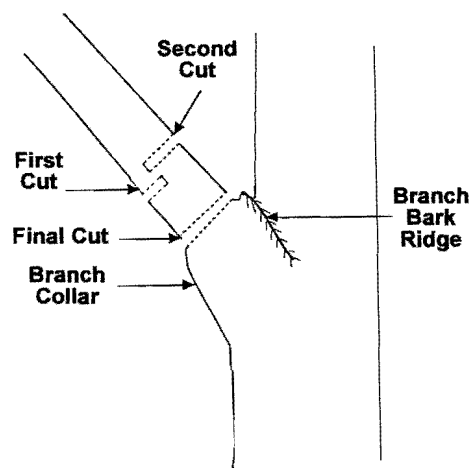


Figure 5.3.2. – A pruning cut that removes a branch at its point of origin shall be made close to the trunk or parent limb, without cutting into the branch bark ridge or collar, or leaving a stub. Branches too large to support with one hand shall be precut to avoid splitting of the wood or tearing of the bark.

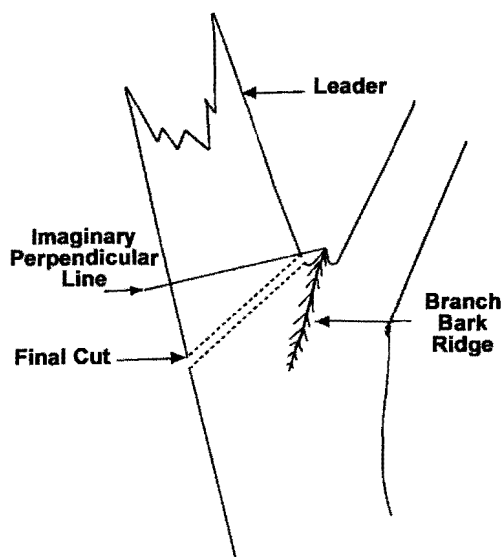


Figure 5.3.3. – A pruning cut that reduces the length of a branch or parent stem should bisect the angle between its branch bark ridge and an imaginary line perpendicular to the branch or stem.

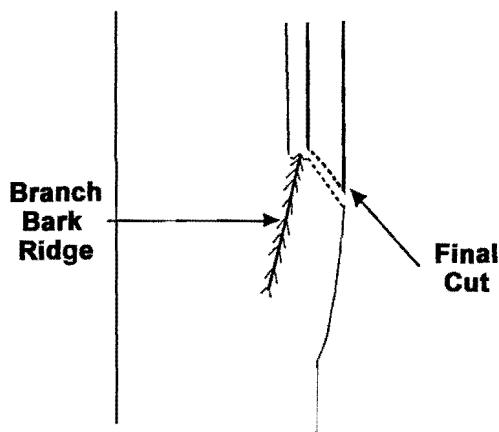


Figure 5.3.7. – A final cut that removes a branch with a narrow angle of attachment should be made from the outside of the branch to prevent damage to the parent limb.

5.4 Wound treatment

5.4.1 Wound treatments should not be used to cover wounds or pruning cuts, except when recommended for disease, insect, mistletoe, or sprout control, or for cosmetic reasons.

5.4.2 Wound treatments that are damaging to tree tissues shall not be used.

5.4.3 When tracing wounds, only loose, damaged tissue should be removed.

5.5 Pruning objectives

5.5.1 Pruning objectives shall be established prior to beginning any pruning operation.

5.5.2 To obtain the defined objective, the growth cycles and structure of individual species and the type of pruning to be performed should be considered.

5.5.3 Not more than 25 percent of the foliage should be removed within an annual growing season. The percentage and distribution of foliage to be removed shall be adjusted according to the plant's species, age, health, and site.

5.5.4 Not more than 25 percent of the foliage of a branch or limb should be removed when it is cut back to a lateral. That lateral should be large enough to assume apical dominance.

5.5.5 Pruning cuts should be made in accordance with 5.3 *Pruning cuts*.

5.5.6 Heading should be considered an acceptable practice for shrub or specialty pruning when needed to reach a defined objective.

5.5.7 Topping and lion's tailing shall be considered unacceptable pruning practices for trees.

5.6 Pruning types

Specifications for pruning should consist of, but are not limited to, one or more of the following types:

5.6.1 Clean: Cleaning shall consist of selective pruning to remove one or more of the following parts: dead, diseased, and/or broken branches.

5.6.1.1 Location of parts to be removed shall be specified.

ANSI A300 (Part 1)-2001 Pruning

5.6.1.2 Size range of parts to be removed shall be specified.

5.6.2 Thin: Thinning shall consist of selective pruning to reduce density of live branches.

5.6.2.1 Thinning should result in an even distribution of branches on individual limbs and throughout the crown.

5.6.2.2 Not more than 25 percent of the crown should be removed within an annual growing season.

5.6.2.3 Location of parts to be removed shall be specified.

5.6.2.4 Percentage of foliage and size range of parts to be removed shall be specified.

5.6.3 Raise: Raising shall consist of selective pruning to provide vertical clearance.

5.6.3.1 Vertical clearance should be specified.

5.6.3.2 Location and size range of parts to be removed should be specified.

5.6.4 Reduce: Reduction shall consist of selective pruning to decrease height and/or spread.

5.6.4.1 Consideration shall be given to the ability of a species to tolerate this type of pruning.

5.6.4.2 Location of parts to be removed and clearance should be specified.

5.6.4.3 Size range of parts should be specified.

5.7 Specialty pruning

Consideration shall be given to the ability of a species to tolerate specialty pruning, using one or more pruning types (5.6).

5.7.1 Young trees

5.7.1.1 The reasons for young tree pruning may include, but are not limited to, reducing risk, maintaining or improving tree health and structure, improving aesthetics, or satisfying a specific need.

5.7.1.2 Young trees that will not tolerate repetitive

pruning and have the potential to outgrow their space should be considered for relocation or removal.

5.7.1.3 At planting

5.7.1.3.1 Pruning should be limited to cleaning (5.6.1).

5.7.1.3.2 Branches should be retained on the lower trunk.

5.7.1.4 Once established

5.7.1.4.1 Cleaning should be performed (5.6.1).

5.7.1.4.2 Rubbing and poorly attached branches should be removed.

5.7.1.4.3 A central leader or leader(s) as appropriate should be developed.

5.7.1.4.4 A strong, properly spaced scaffold branch structure should be selected and maintained.

5.7.1.4.5 Interfering branches should be reduced or removed.

5.7.2 Espalier

5.7.2.1 Branches that extend outside the desired plane of growth shall be pruned or tied back.

5.7.2.2 Ties should be replaced as needed to prevent girdling the branches at the attachment site.

5.7.3 Pollarding

5.7.3.1 Consideration shall be given to the ability of the individual tree to respond to pollarding.

5.7.3.2 Management plans shall be made prior to the start of the pollarding process for routine removal of watersprouts.

5.7.3.3 Internodal cuts shall be made at specific locations to start the pollarding process. After the initial cuts are made, no additional internodal cut shall be made.

5.7.3.4 Watersprouts growing from the cut ends of branches (knuckles) should be removed annually during the dormant season.

5.7.4 Restoration

5.7.4.1 Restoration shall consist of selective pruning to improve the structure, form, and appearance of trees that have been severely headed, vandalized, or damaged.

5.7.4.2 Location in tree, size range of parts, and percentage of watersprouts to be removed should be specified.

5.7.5 Vista pruning

5.7.5.1 Vista pruning shall consist of selective pruning to allow a specific view.

5.7.5.2 Size range of parts, location in tree, and percentage of foliage to be removed should be specified.

5.8 Palm pruning

5.8.1 Palm pruning should be performed when fronds, fruit, or loose petioles may create a dangerous condition.

5.8.2 Live healthy fronds, initiating at an angle of 45 degrees or greater from horizontal, with frond tips at or below horizontal, should not be removed.

5.8.3 Fronds removed should be severed close to the petiole base without damaging living trunk tissue.

5.8.4 Palm peeling (shaving) should consist of the removal of only the dead frond bases at the point they make contact with the trunk without damaging living trunk tissue.

5.9 Utility pruning

5.9.1 General

5.9.1.1 The purpose of utility pruning is to prevent the loss of service, comply with mandated clearance laws, prevent damage to equipment, avoid access impairment, and uphold the intended usage of the facility/utility space.

5.9.1.2 Only a qualified line clearance arborist or line clearance arborist trainee shall be assigned to line clearance work in accordance with ANSI Z133.1, 29 CFR 1910.331 – 335, 29 CFR 1910.268 or 29 CFR 1910.269.

5.9.1.3 Utility pruning operations are exempt from requirements in 5.1 Tree Inspection:

5.1.1 *An arborist or arborist trainee shall visually inspect each tree before beginning work.*

5.1.2 *If a condition is observed requiring attention beyond the original scope of the work, the condition should be reported to an immediate supervisor, the owner, or the person responsible for authorizing the work.*

5.9.1.4 Safety inspections of the work area are required as outlined in ANSI Z133.1 4.1.3, *job briefing*.

5.9.2 Utility crown reduction pruning

5.9.2.1 Urban/residential environment

5.9.2.1.1 Pruning cuts should be made in accordance with 5.3, Pruning cuts. The following requirements and recommendations of 5.9.2.1.1 are repeated from 5.3 Pruning cuts.

5.9.2.1.1.1 A pruning cut that removes a branch at its point of origin shall be made close to the trunk or parent limb, without cutting into the branch bark ridge or collar, or leaving a stub (see Figure 5.3.2).

5.9.2.1.1.2 A pruning cut that reduces the length of a branch or parent stem should bisect the angle between its branch bark ridge and an imaginary line perpendicular to the branch or stem (see Figure 5.3.3).

5.9.2.1.1.3 The final cut shall result in a flat surface with adjacent bark firmly attached.

5.9.2.1.1.4 When removing a dead branch, the final cut shall be made just outside the collar of living tissue.

5.9.2.1.1.5 Tree branches shall be removed in such a manner so as not to cause damage to other parts of the tree or to other plants or property. Branches too large to support with one hand shall be precut to avoid splitting of the wood or tearing of the bark (see Figure 5.3.2). Where necessary, ropes or other equipment shall be used to lower large branches or portions of branches to the ground.

5.9.2.1.1.6 A final cut that removes a branch

ANSI A300 (Part 1)-2001 Pruning

with a narrow angle of attachment should be made from the bottom of the branch to prevent damage to the parent limb (see Figure 5.3.7).

5.9.2.1.2 A minimum number of pruning cuts should be made to accomplish the purpose of facility/utility pruning. The natural structure of the tree should be considered.

5.9.2.1.3 Trees directly under and growing into facility/utility spaces should be removed or pruned. Such pruning should be done by removing entire branches or by removing branches that have laterals growing into (or once pruned, will grow into) the facility/utility space.

5.9.2.1.4 Trees growing next to, and into or toward facility/utility spaces should be pruned by reducing branches to laterals (5.3.3) to direct growth away from the utility space or by removing entire branches. Branches that, when cut, will produce watersprouts that would grow into facilities and/or utility space should be removed.

5.9.2.1.5 Branches should be cut to laterals or the parent branch and not at a pre-established clearing limit. If clearance limits are established, pruning cuts should be made at laterals or parent branches outside the specified clearance zone.

5.9.2.2 Rural/remote locations – mechanical pruning

Cuts should be made close to the main stem, outside of the branch bark ridge and branch collar. Precautions should be taken to avoid stripping or tearing of bark or excessive wounding.

5.9.3 Emergency service restoration

During a utility-declared emergency, service must be restored as quickly as possible in accordance with ANSI Z133.1, 29 CFR 1910.331 – 335, 29 CFR 1910.268, or 29 CFR 1910.269. At such times it may be necessary, because of safety and the urgency of service restoration, to deviate from the use of proper pruning techniques as defined in this standard. Following the emergency, corrective pruning should be done as necessary.

Annex A
(informative)

Reference publications

International Society of Arboriculture (ISA). 1995. *Tree Pruning Guidelines*. Savoy, IL: International Society of Arboriculture (ISA).

APPENDIX D

Sample Tree Ordinances:

**Vancouver Urban Forestry
Management Plan – January 2008**

Executive Summary

Vancouver Urban Forestry Management Plan (January 2008)

The full 96 page document can be viewed online at the following address:

[http://www.cityofvancouver.us/parks-recreation/parks_trails/urban\)_forestry/docs/UFMP_final-web.pdf](http://www.cityofvancouver.us/parks-recreation/parks_trails/urban)_forestry/docs/UFMP_final-web.pdf)

EXECUTIVE SUMMARY

*"A society grows great
when old men plant trees
whose shade they know
they shall never sit in."*

Greek Proverb

Even in the bounty of the Northwest, America's Vancouver is blessed with an especially rich local history, a setting of great natural beauty, and intimate ties to its natural resources. Its urban forest, which has suffered significant declines in the recent past, is poised to rebound – expanding tree canopy coverage to provide shade for recreation, capturing financial savings in stormwater management, and fostering community empowerment and pride as city residents reconnect with the city's trees. To leverage these benefits, the City of Vancouver embarked on the development of its first Urban Forestry Management Plan, and while significant challenges lie ahead, this plan provides a framework for policy direction and realistic action steps to improve the health, well-being and extent of Vancouver's urban forest.

The reasons to act without delay are compelling.

In an increasingly urbanized nation, urban forests provide an essential balance to the built environment and directly influence the daily lives of nearly 80% of the country's population. The increasing extent and significance of urban influence across the United States call for resource policymakers, planners, and managers at national, regional, and local levels to focus their attention on forest resources in urban settings.¹ Improvements to the urban forest promote sustainability and can counteract local threats of poor air and water quality and the global threat of climate change.



Locally, Vancouver's urban forest canopy coverage has declined 26%, from 46% coverage in 1972 to 19.7% coverage today. A recognition of canopy loss was validated through public polling as part of this planning effort. A majority (77%) of respondents perceived a decline in canopy over the past 20 years, and 60% expect continued decline in the coming 20 years. This moderate pessimism about the future must be reversed and this energy rechanneled to engage new partnerships. Public education and outreach are the only means to seriously affect the expansion of the city's tree resources.

As the urban forest grows, so grows the community.

¹ Dwyer, et al.; 2000.

A healthy and extensive tree canopy provides a wide range of environmental, economic and social benefits, many of which can be monetized in terms of services rendered. The loss of canopy effectively has reduced the level of service provided for stormwater management, air and water quality control and climate moderation. As a response, this plan proposes the establishment of a city-wide goal of 28% for tree canopy coverage, which, through various specific actions, is intended to increase canopy coverage and reduce future hard infrastructure demands by realizing full potential of the myriad services offered by the city's trees.



For the community to fully appreciate its urban forest, residents must feel a sense of ownership and pride in its existence. Being able to learn about trees and use public parks and forest preserves in urban areas helps them bond to their space and recognize their role in making sure it is preserved and enhanced for future generations. The simple act of planting a tree at home can provide a critical link between citizens and their more distant forest resources. With close proximity to Gifford Pinchot National Forest's 1.3 million acres of forest land, the education and outreach provided to Vancouver's residents through the Urban Forestry program will undoubtedly affect how people perceive and interact with the region's trees and foster long-term community stewardship.

Building on a shared sense of common purpose and vision.

This Urban Forestry Management Plan is an outgrowth of personal discussions with city residents, conversations with city leadership across all major departments, a public survey and the interactions and oversight of the Urban Forestry Commission and Urban Forestry staff. The plan discusses in detail the benefits of trees in the urban environment, the current state of the urban forest and the urban forestry program, and the proposed goals and actions to protect and enhance Vancouver's urban forest. The overall action strategy of the plan relies on the following:

- **Protect : Expand : Educate** – The foundation of this plan is summarized by these three words. The primary goals of the plan emphasize the need to protect or preserve the existing stands of tree canopy to prevent further loss, while aggressively expanding the number of trees planted throughout the city to attain or surpass the 28% canopy goal. Recognizing that 67% of the existing canopy coverage is located on private land, landowner education becomes the keystone to protecting against tree loss and aiding in long-term tree care.

"We have not inherited the earth from our parents, we are borrowing it from our children."

Native American saying
(often attributed to Chief Seattle)

- **Interagency Coordination** – The urban forest is a vital part of the city’s infrastructure and interacts with many different disciplines in a complex manner. Transportation, Public Works, Parks and other departments have varying degrees of influence over and responsibility for the urban forest. The successful planning and implementation of proposed projects and policy modifications require constant, in-depth coordination across governmental and other agencies.
- **Partnership Development** – There is incredible opportunity for companies, agencies, neighborhood organizations, business groups and individuals of all ages to step forward on behalf of efforts to support the urban forest. Public-private partnerships create an expanded “workforce” and build a powerful sense of community. Unique alliances with schools, civic organizations and others can maximize the city’s investments in urban forestry and leverage the City’s limited resources.

Strong public support exists for the betterment of Vancouver’s urban forest and for the Urban Forestry program in general. For example, a significant majority (92%) of respondents to the survey favored expanding the city’s tree planting program, 69% of whom indicated a willingness to pay for the added service. Separately, the growing enrollment in the NeighborWoods program illustrates the level of interest and enthusiasm residents of Vancouver and beyond have toward improving the quality of their neighborhoods through trees.

This plan articulates a vision and proposes reasonable actions to expand and restore the value and beauty of the urban forest for the benefit of future generations. As such, the health and vitality of Vancouver’s urban forest will be measured over the long term—not just years or decades, but centuries. Vancouver’s trees will indeed keep our population healthy and our economy strong.



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APPENDIX E

Budgets:

Street Tree Pruning: Approximately 100 trees. Prune 25 trees per year over a 4-year period.

Budget: \$2,000.00 per year.

Significant Mature Pruning: 5- to 10-year cycle (each tree is pruned ever 5- to 10-years), prune approximately 10 trees per year.

Budget: \$3,500.00 – 4,000.00 per year.

