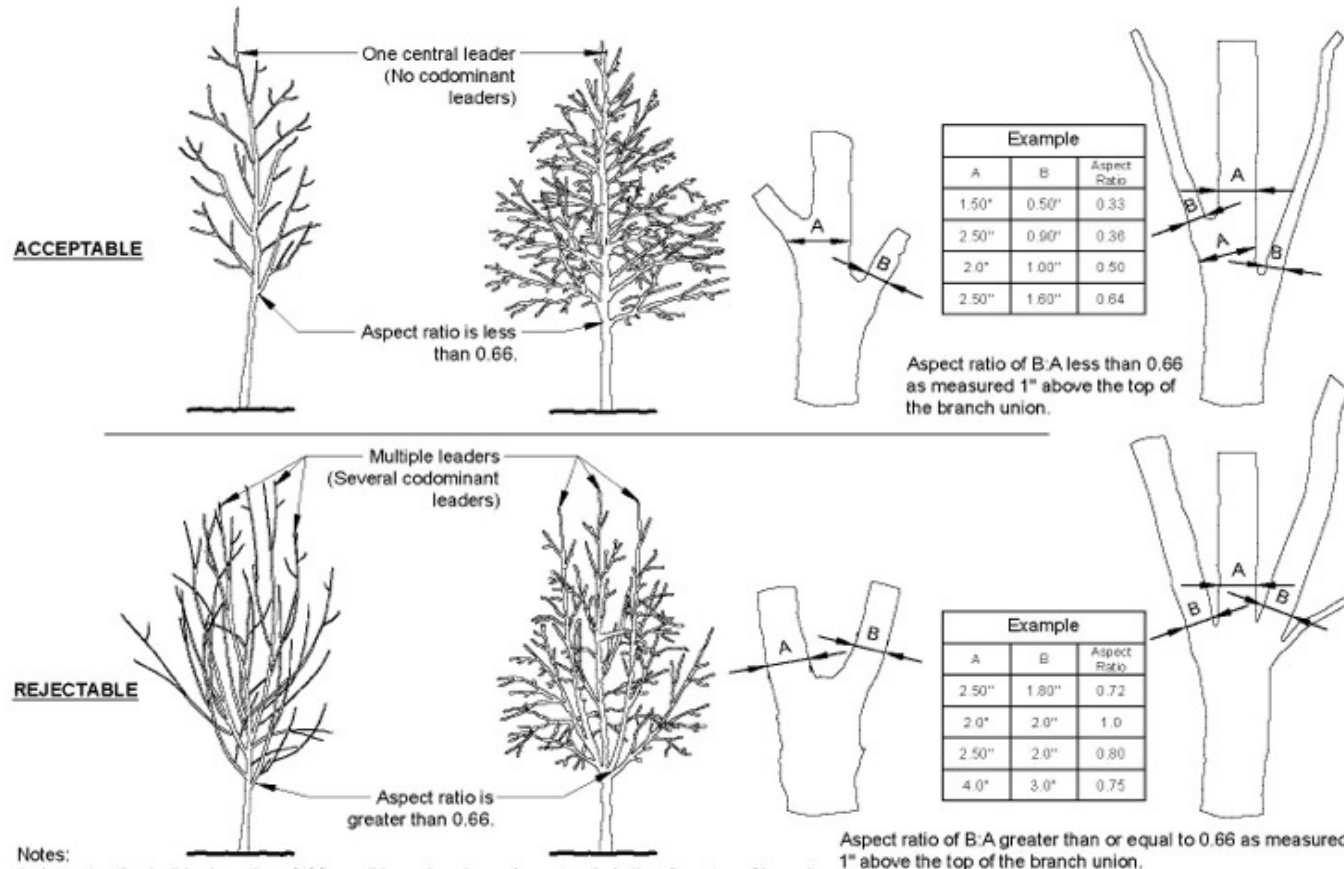


Tree Central Leaders:

Proper nursery practices, specification and correction

Brian Kempf – Urban Tree Foundation, Wood Architecture



Notes:

1- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.

2- Any tree not meeting the crown observations detail may be rejected.



CROWN OBSERVATIONS - HIGH BRANCHED

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Structural • Pruning

A GUIDE FOR THE GREEN INDUSTRY

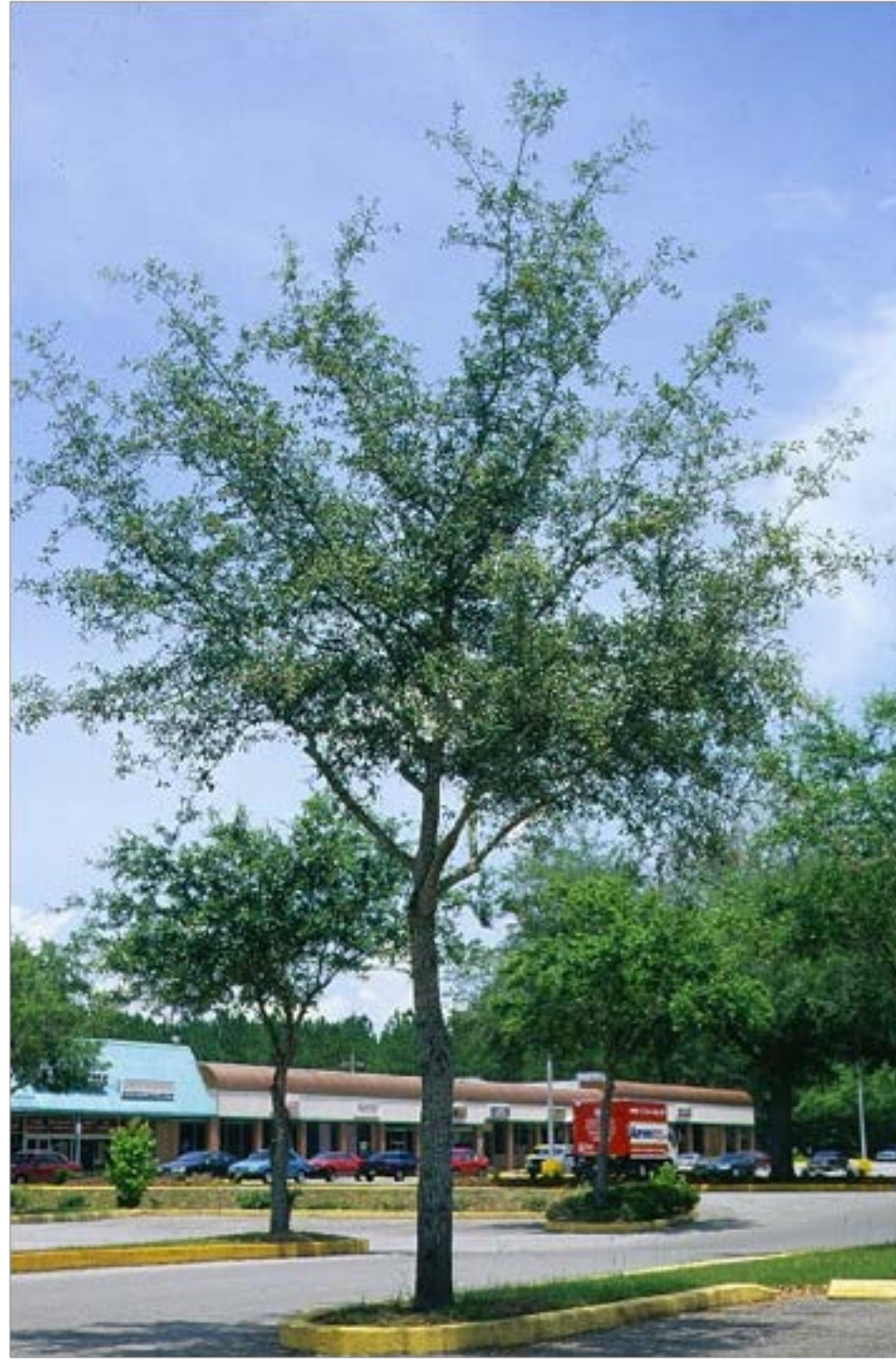
Edward E. Gilman

Brian Kempf

Nelda Matheny

Jim Clark













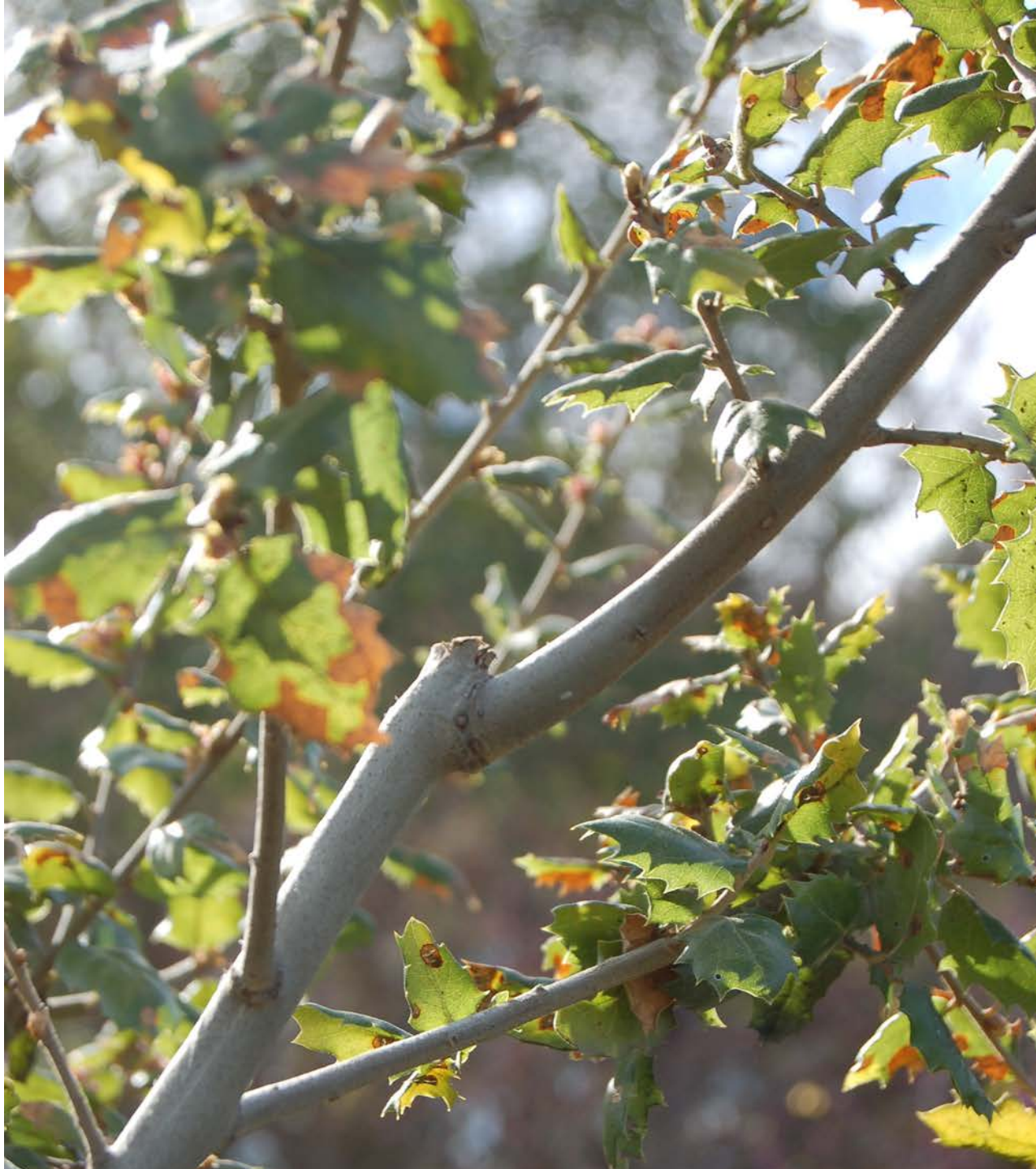


10/3/2012



3/14/2013





2/27/2014



10/3/2012



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2/27/2014



2/27/2014



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Photos Dick Harris































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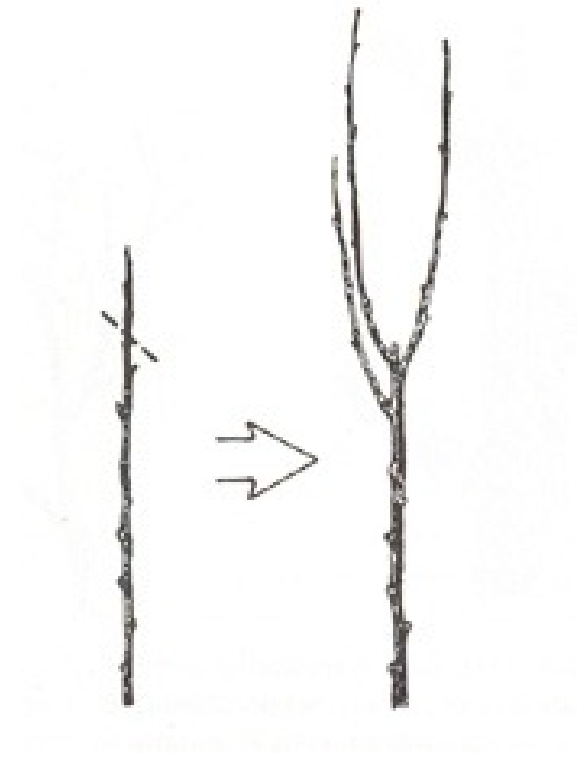






















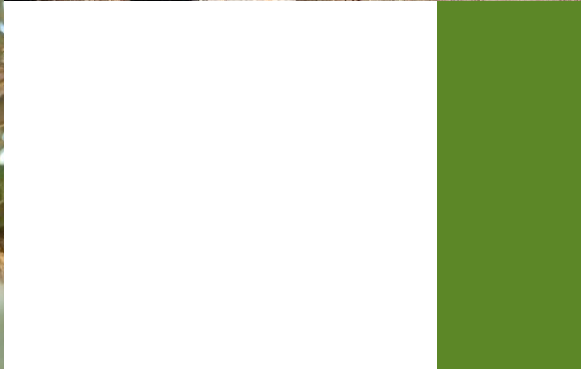




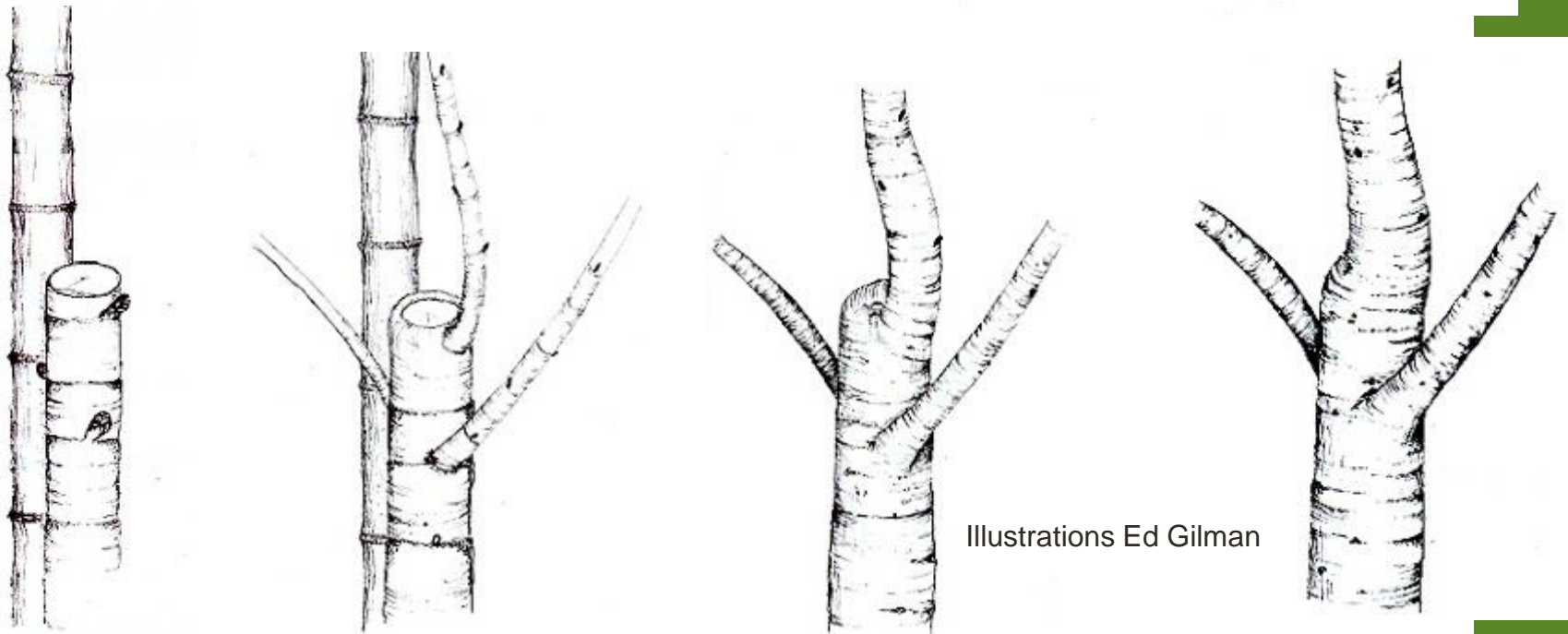
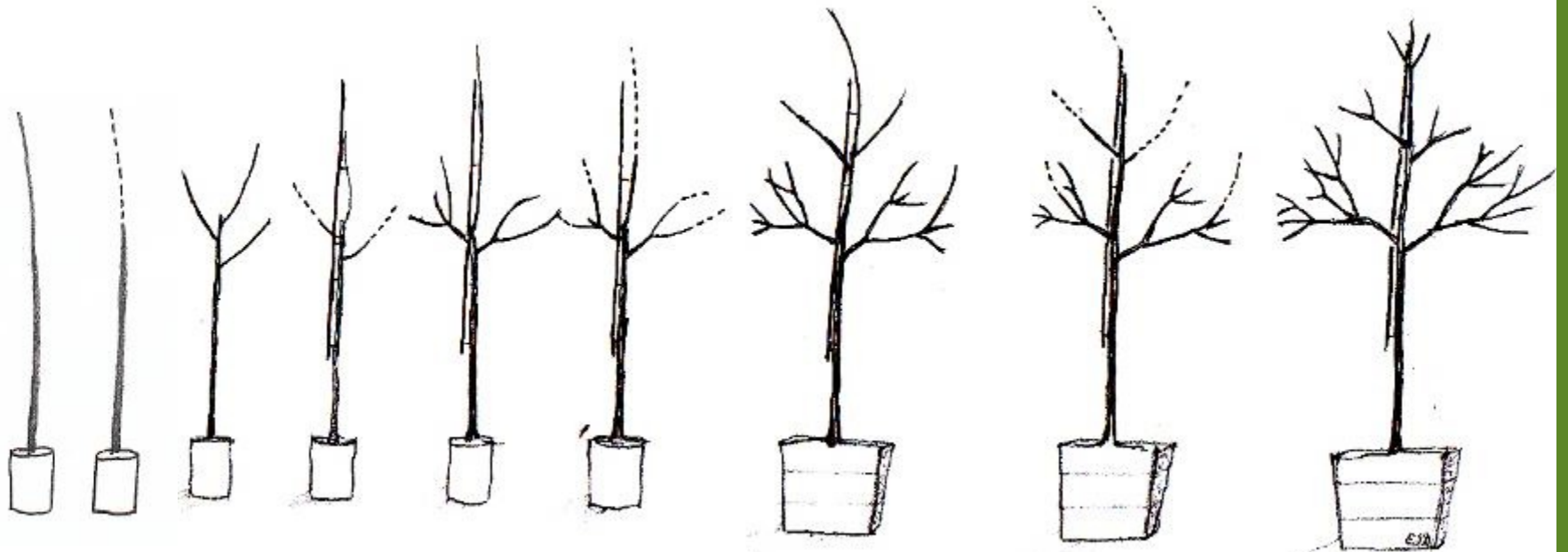




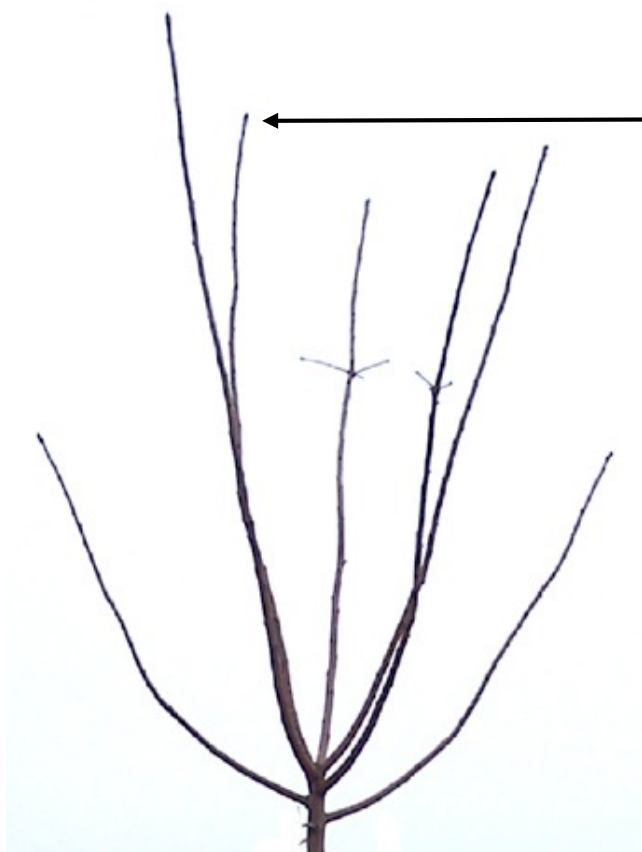






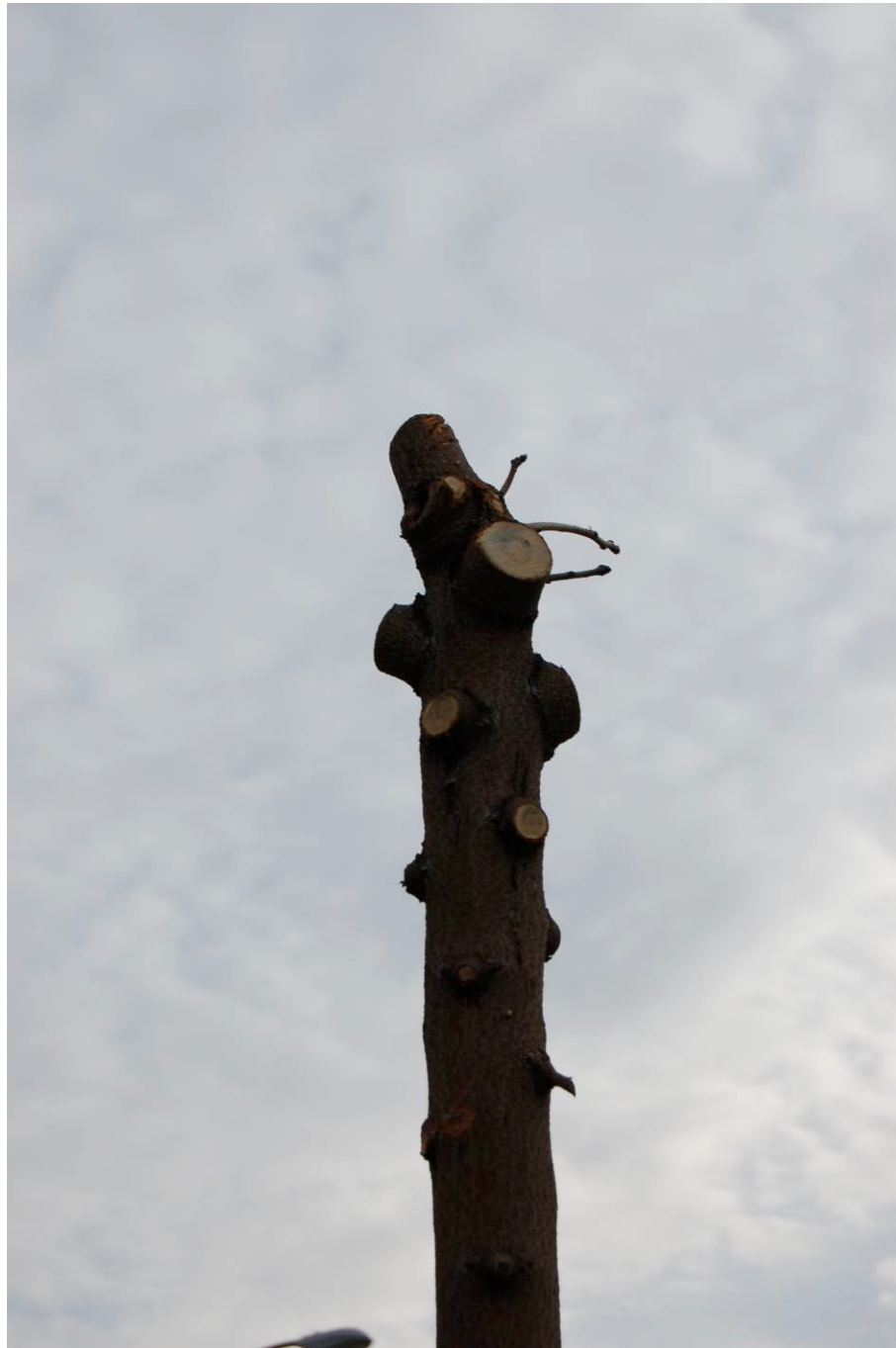


Illustrations Ed Gilman



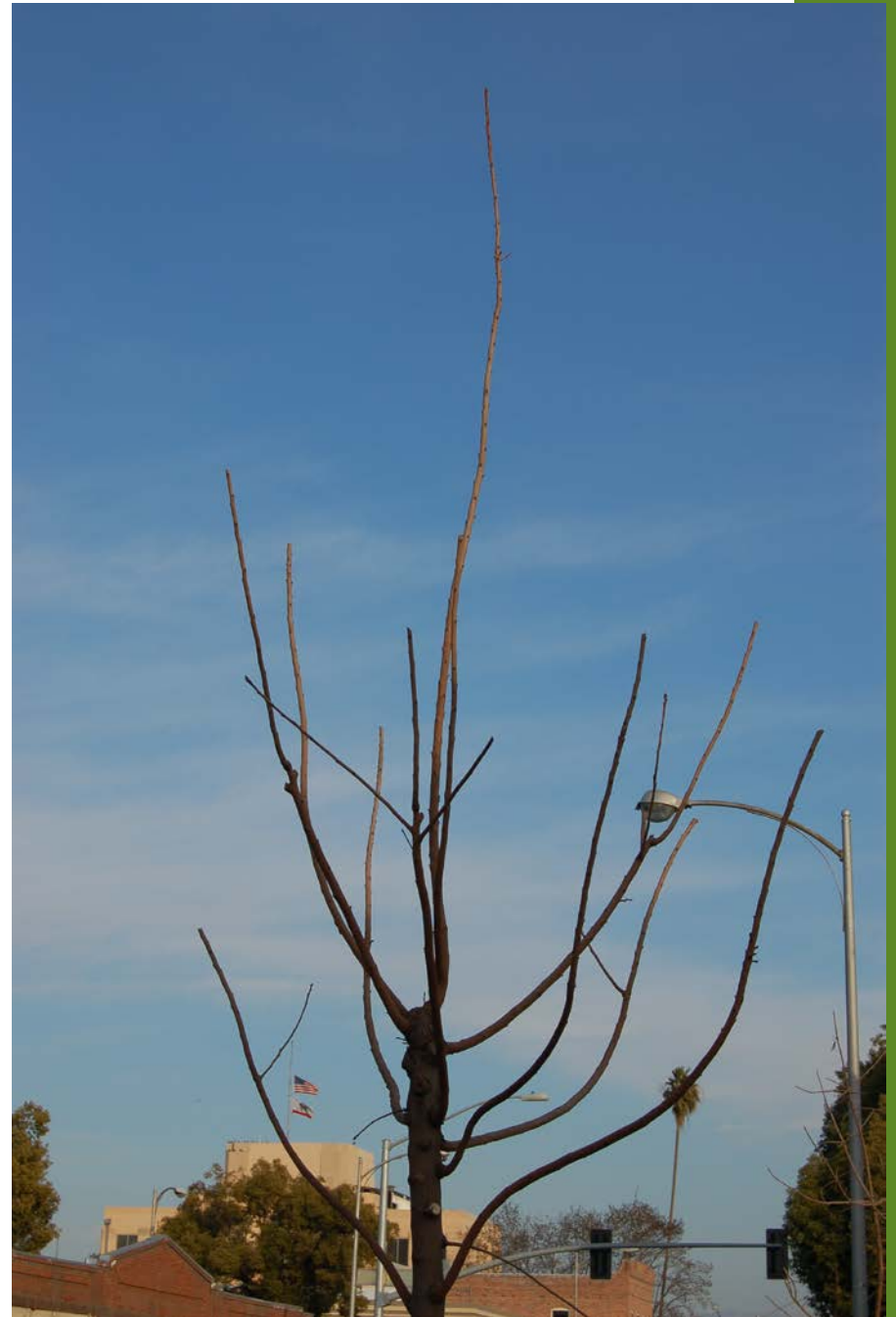


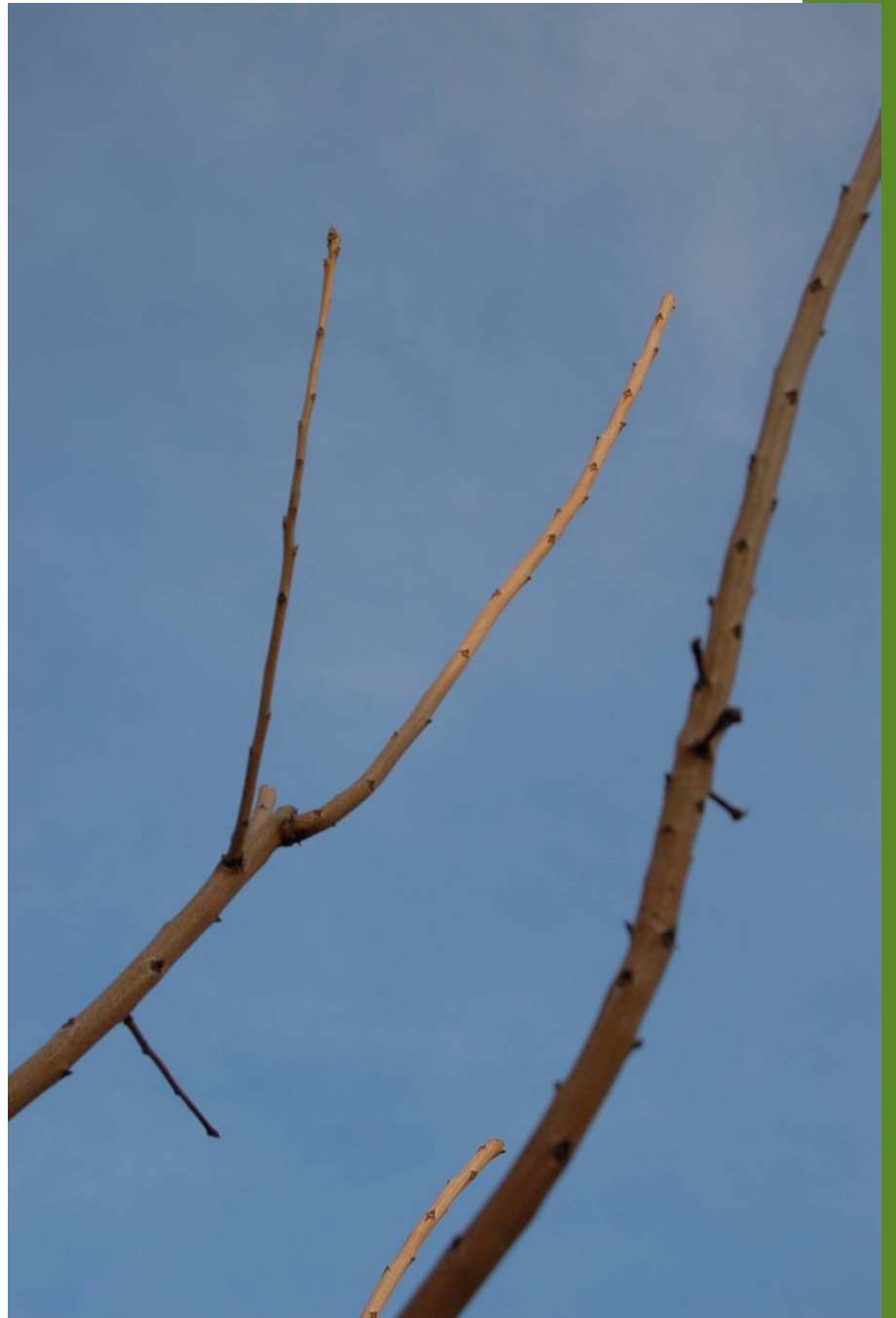


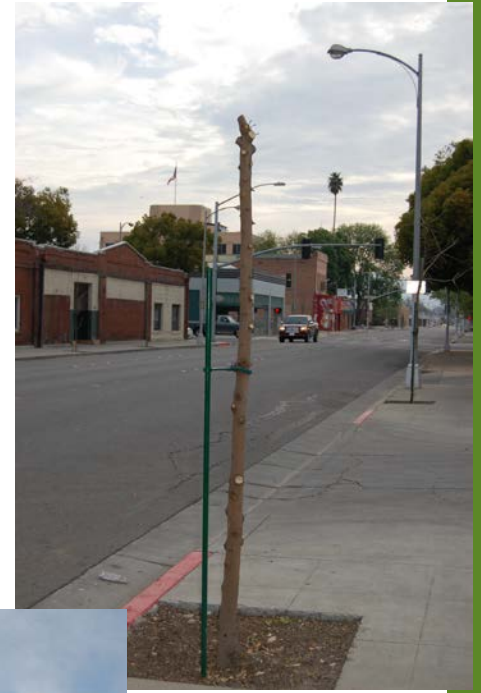


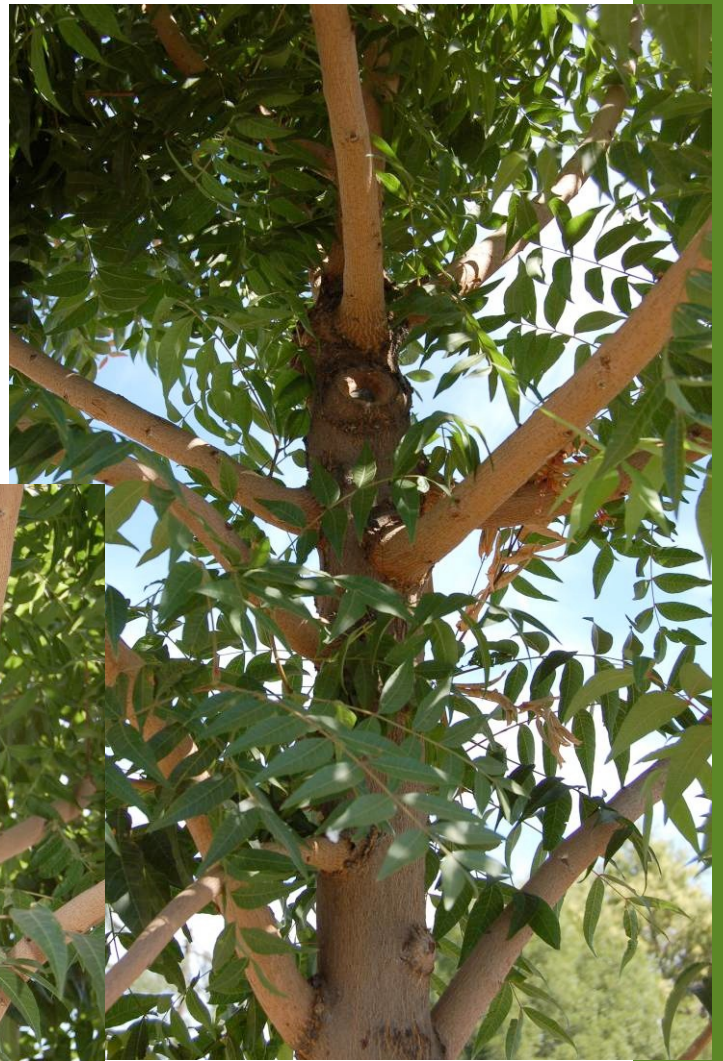


















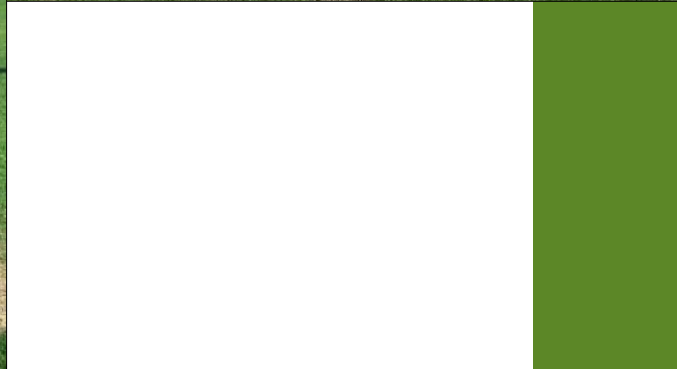


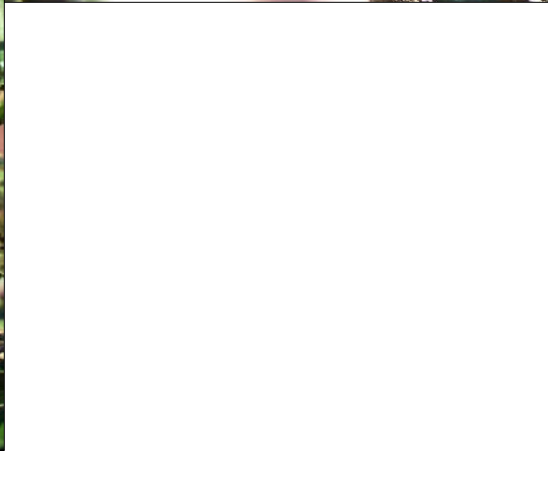
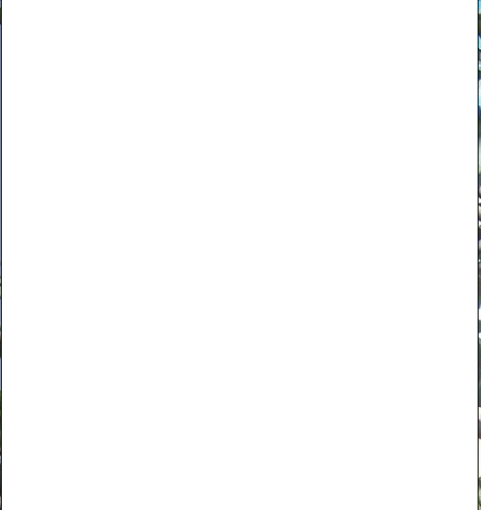




















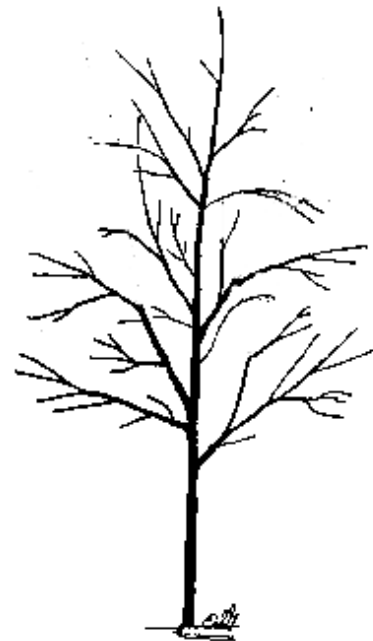
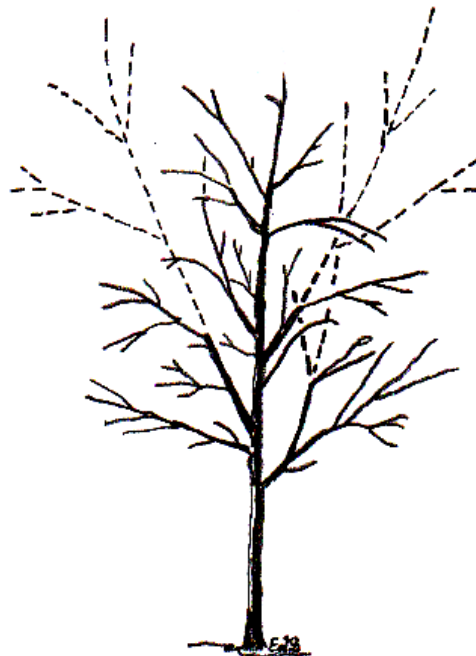
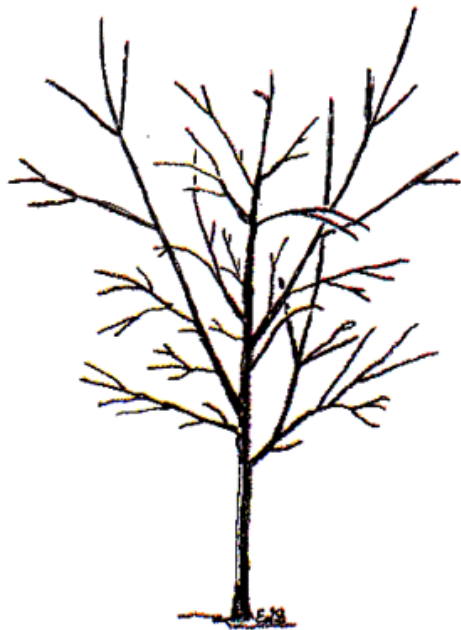


2910

2910

Aquatic Pool Center





Illustrations Ed Gilman









































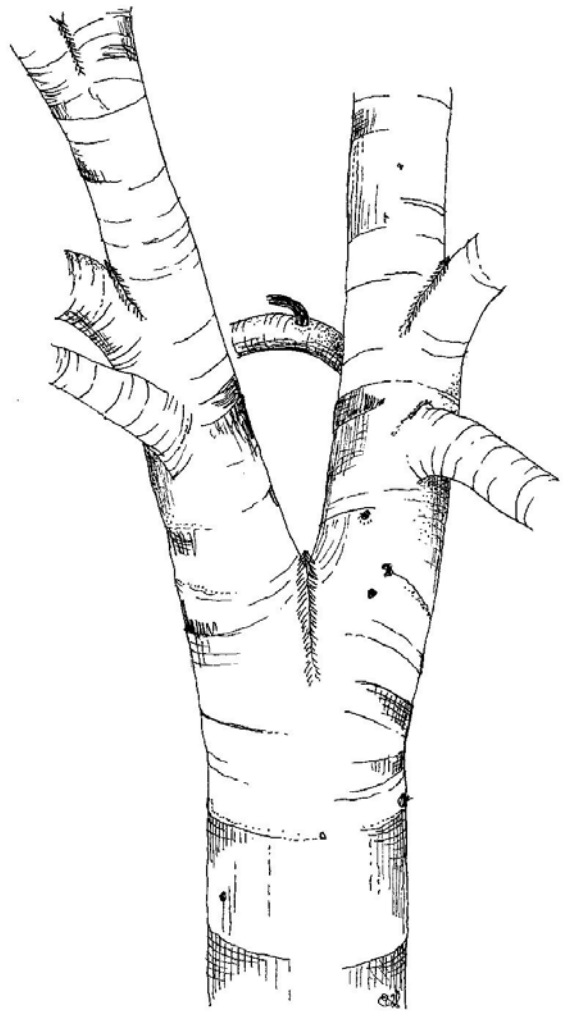
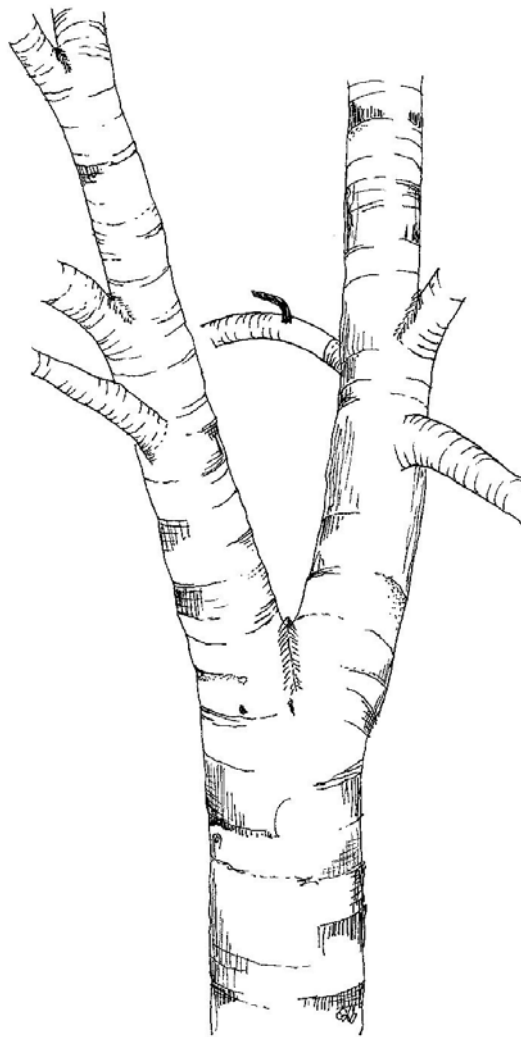
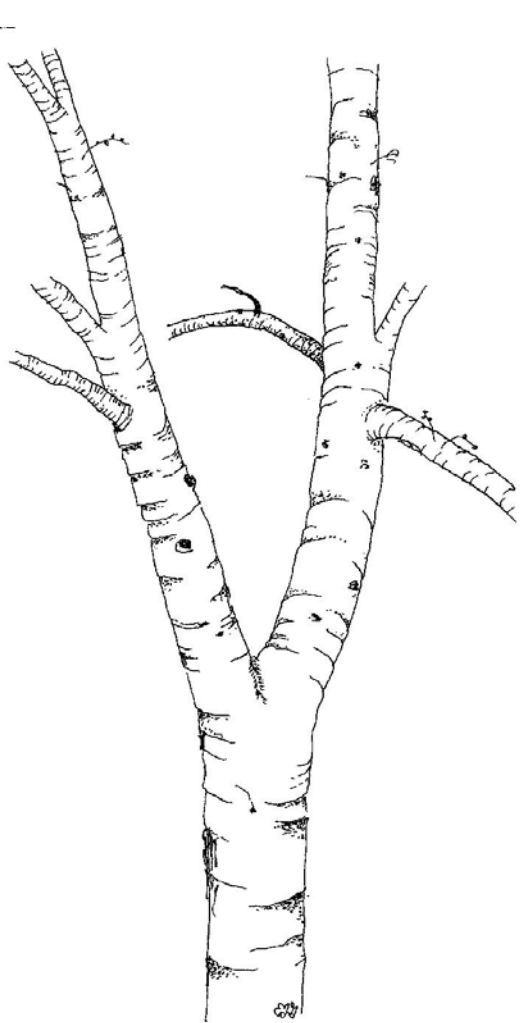




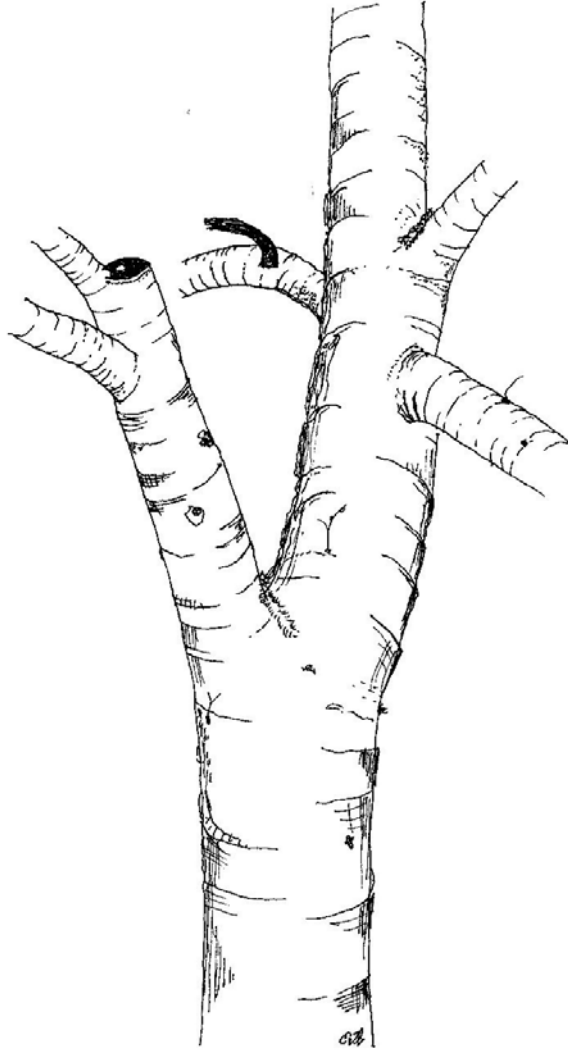
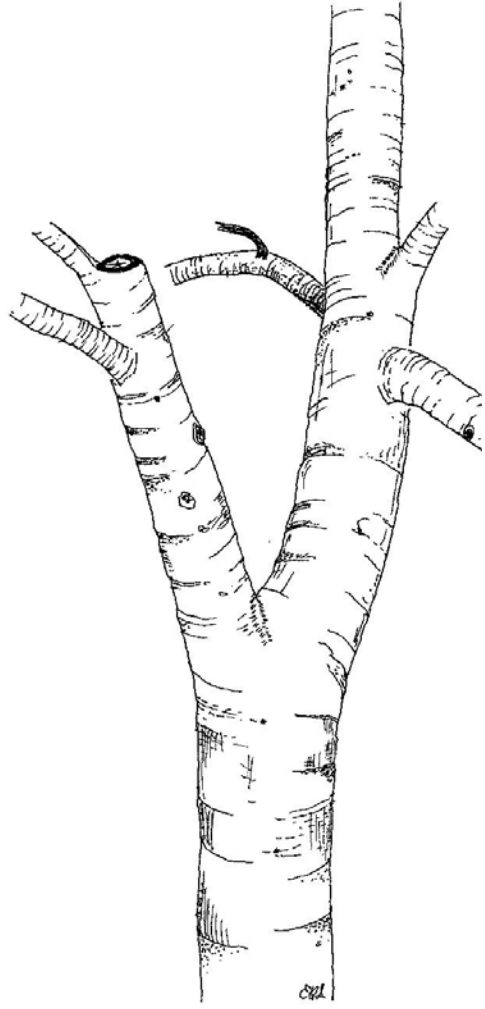


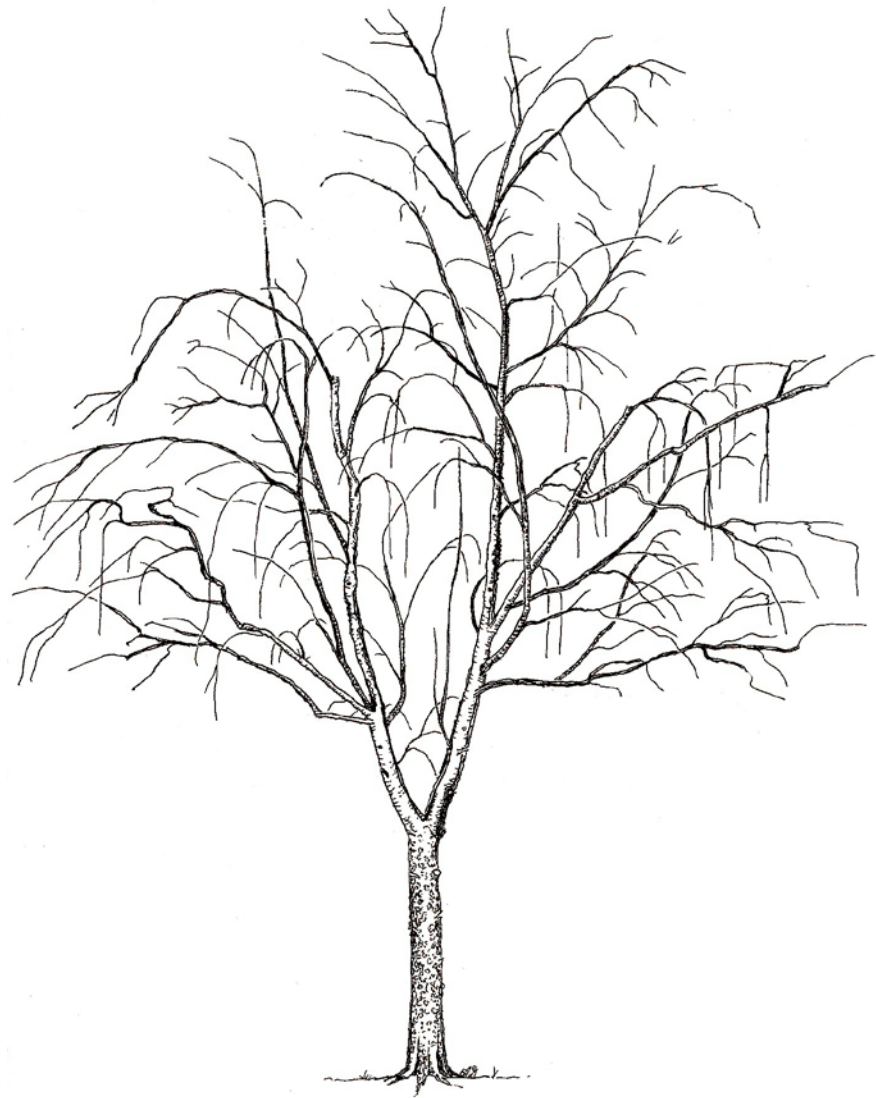
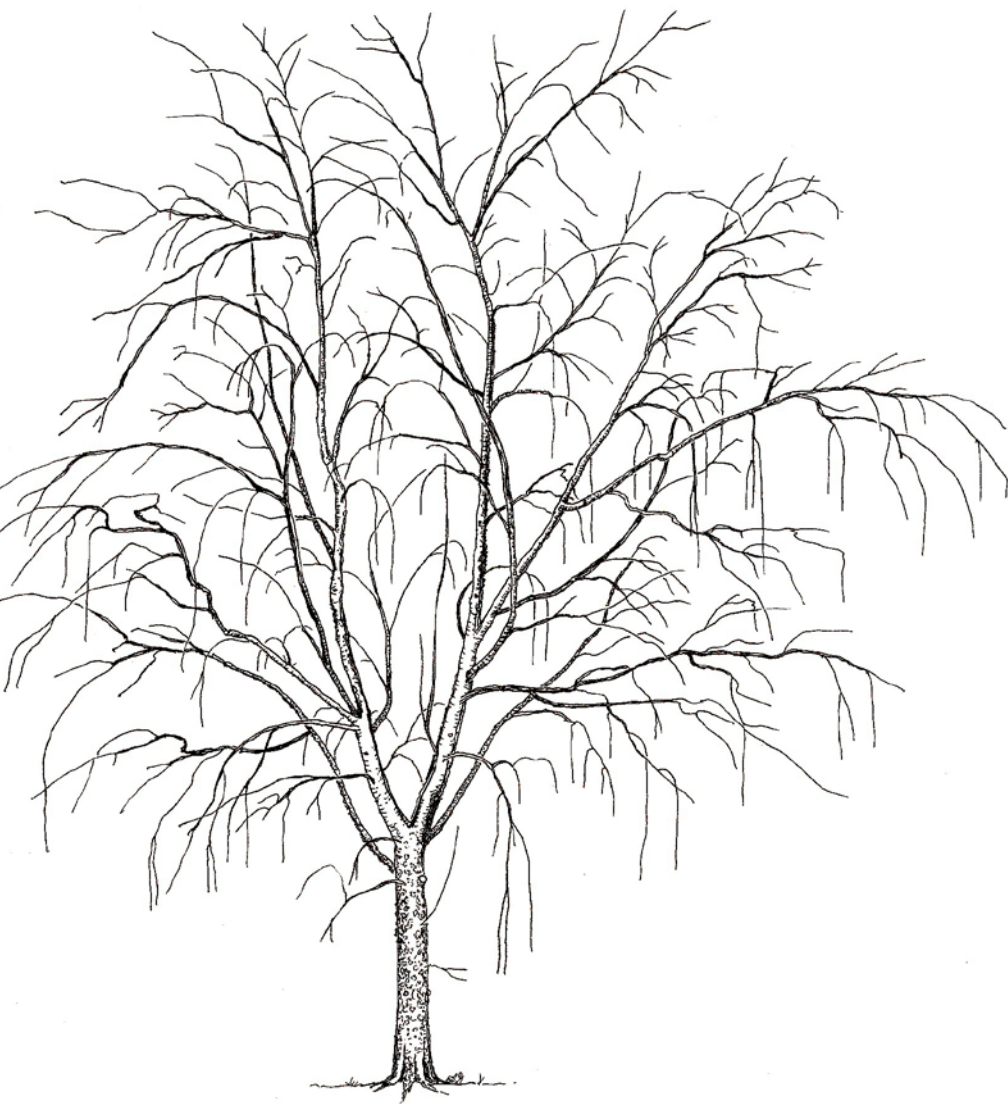


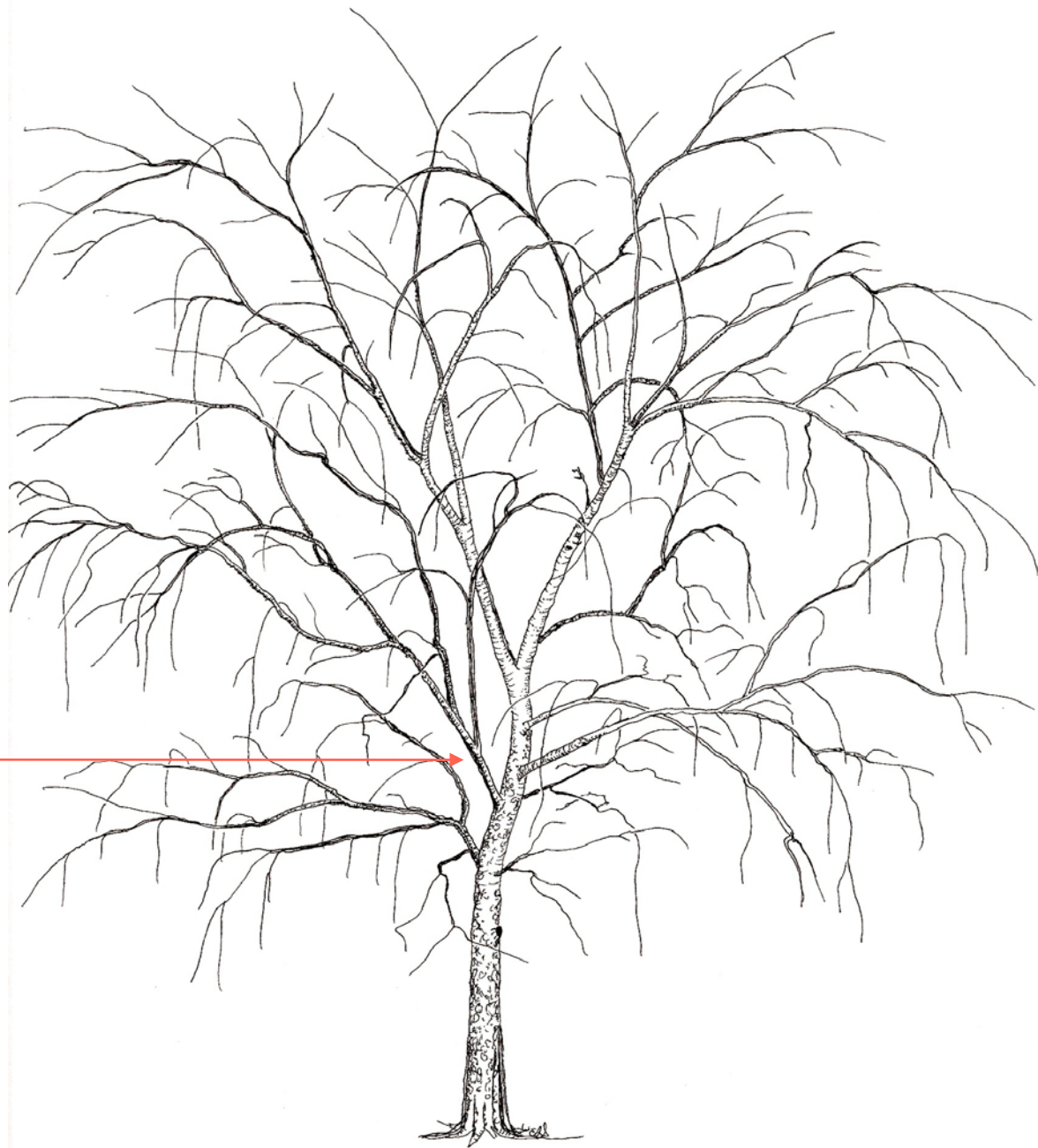
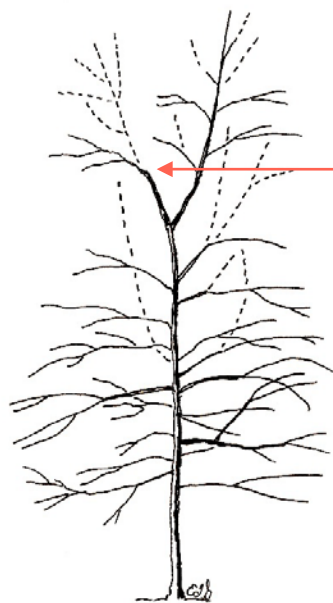




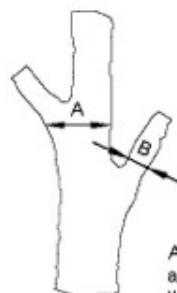
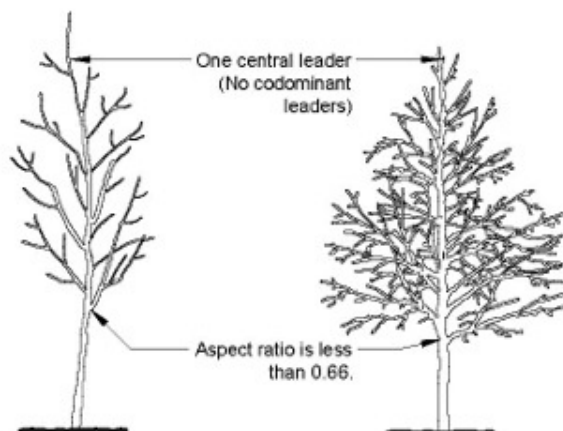
aspect 1





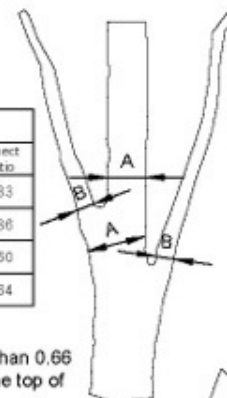


ACCEPTABLE

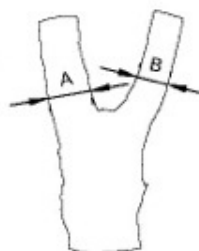
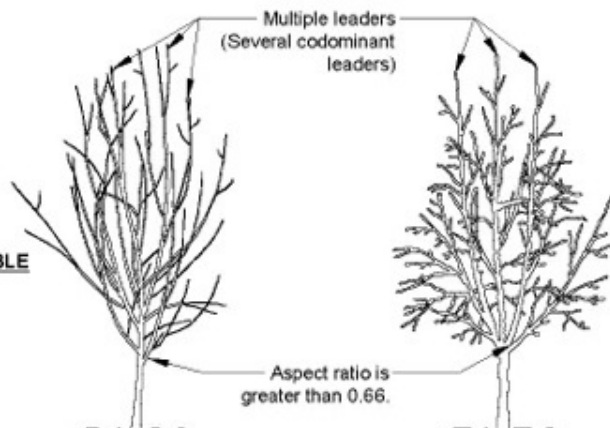


Example		
A	B	Aspect Ratio
1.50"	0.50"	0.33
2.50"	0.90"	0.36
2.0"	1.00"	0.50
2.50"	1.80"	0.64

Aspect ratio of B:A less than 0.66 as measured 1" above the top of the branch union.

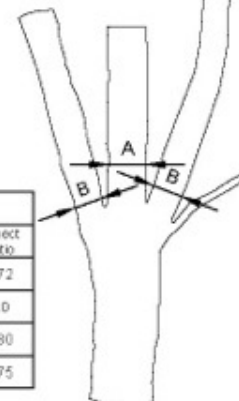


REJECTABLE



Example		
A	B	Aspect Ratio
2.50"	1.80"	0.72
2.0"	2.0"	1.0
2.50"	2.0"	0.80
4.0"	3.0"	0.75

Aspect ratio of B:A greater than or equal to 0.66 as measured 1" above the top of the branch union.



Notes:

1- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.

2- Any tree not meeting the crown observations detail may be rejected.



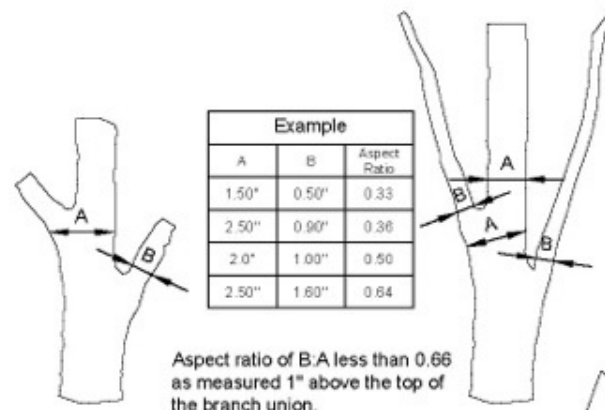
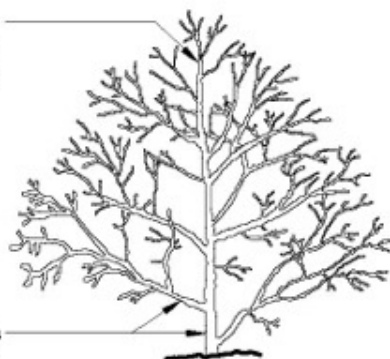
CROWN OBSERVATIONS - HIGH BRANCHED

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ACCEPTABLE

One central leader
(No codominant
leaders)

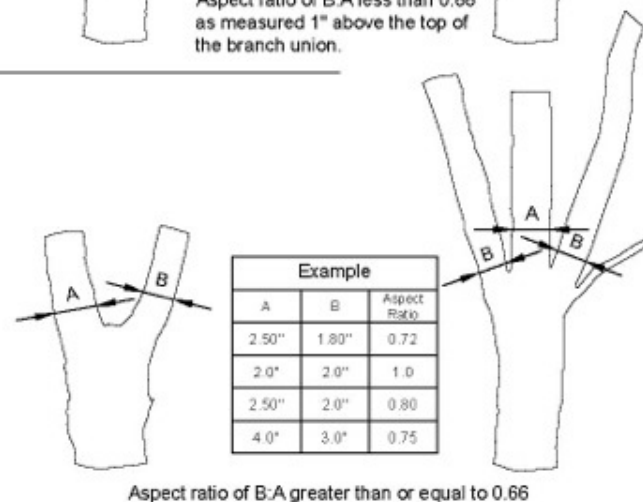
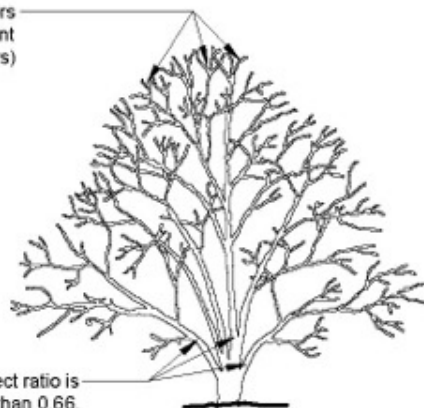
Aspect ratio is less
than 0.66.



REJECTABLE

Multiple leaders
(Several codominant
leaders)

Aspect ratio is
greater than 0.66.



Notes:

1- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.

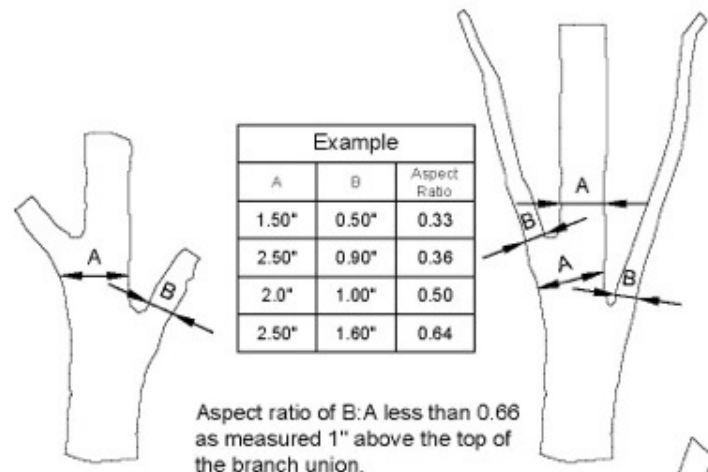
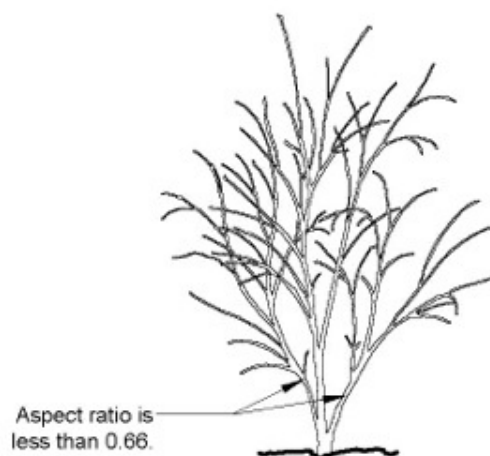
2- Any tree not meeting the crown observations detail may be rejected.



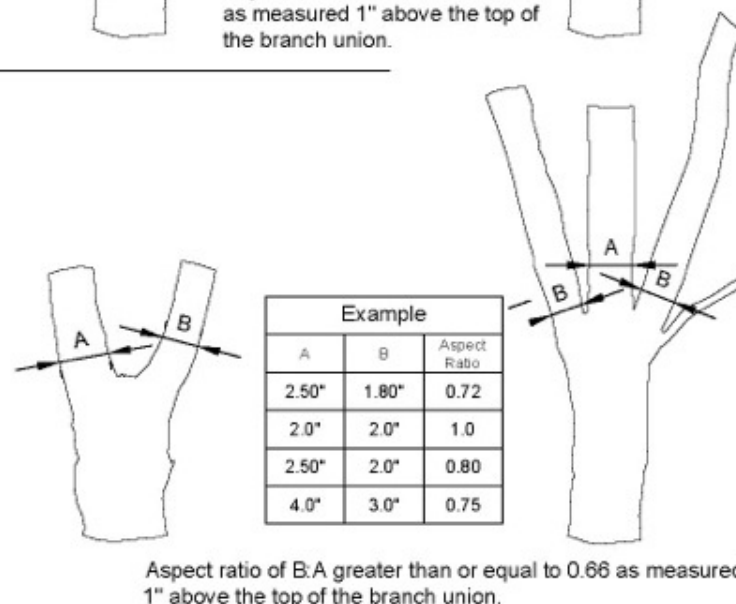
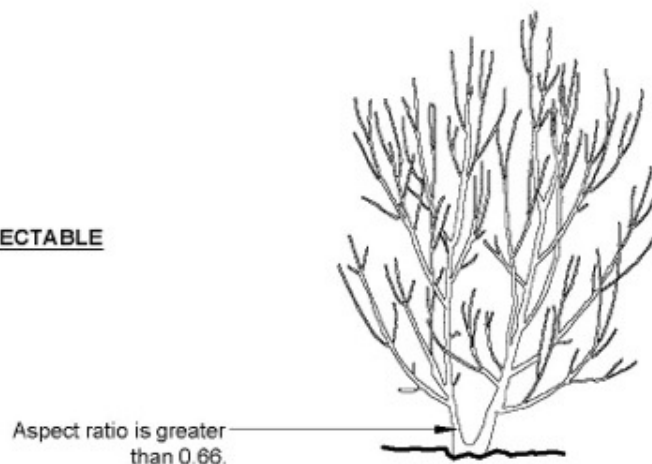
CROWN OBSERVATIONS - LOW BRANCHED

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ACCEPTABLE



REJECTABLE



Notes:

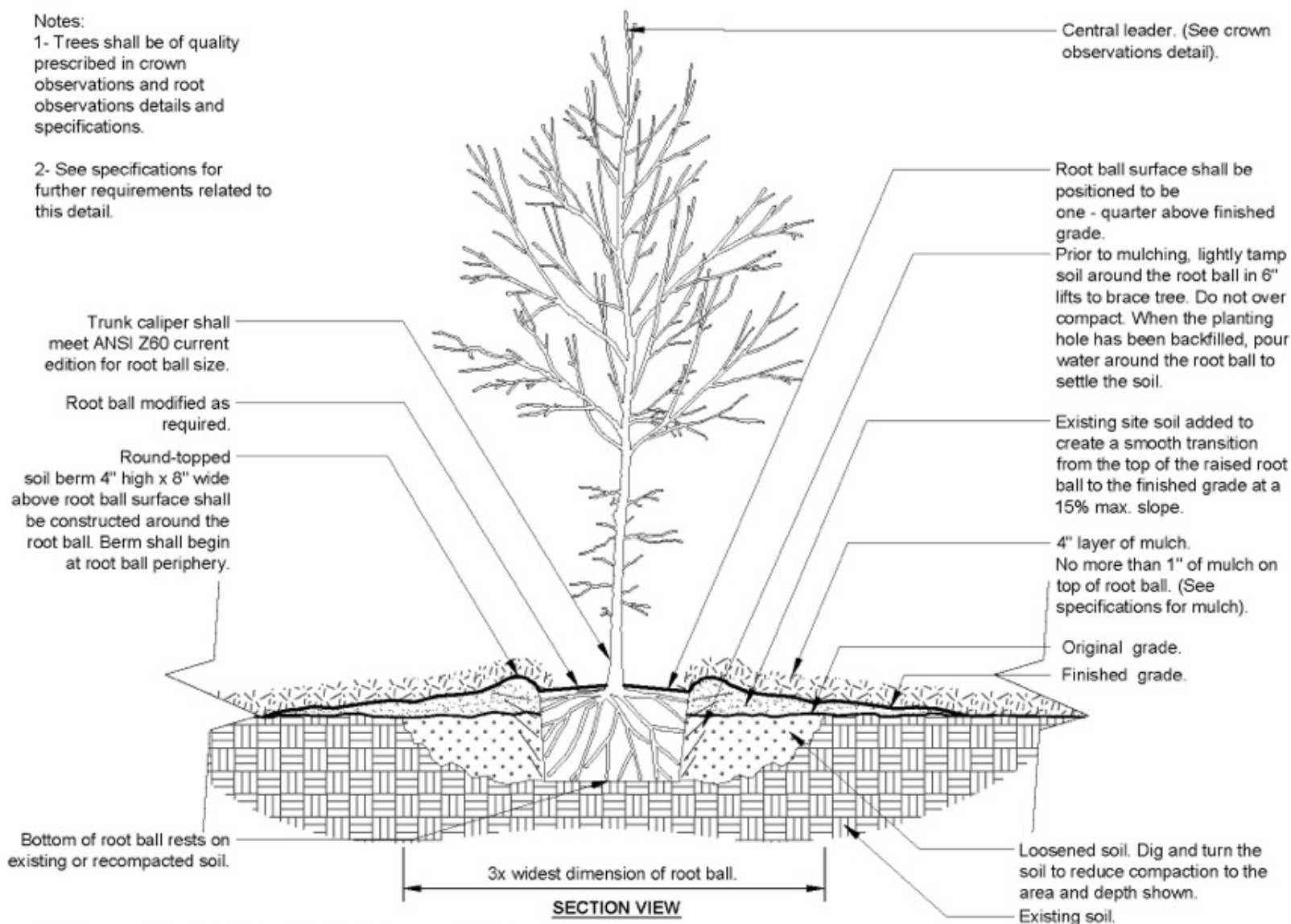
1- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.

2- Any tree not meeting the crown observations detail may be rejected.

Notes:

1- Trees shall be of quality prescribed in crown observations and root observations details and specifications.

2- See specifications for further requirements related to this detail.



P-X

TREE IN POORLY DRAINED SOIL

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Guideline Specifications for Nursery Tree Quality

Selecting Quality Nursery Stock

A committee comprised of municipal arborists, urban foresters, nurserymen, U.C. Cooperative Extension horticultural advisors, landscape architects, non-profit tree groups, horticultural consultants, etc., developed the attached specifications to ensure high quality landscape trees. After more than a year of work, they succeeded in drafting a document entitled Specification Guidelines for Container-grown Trees for California. This document will be published and the guidelines promoted throughout the nursery and landscape industry. Its intent is to help landscape professionals develop their own comprehensive and detailed specifications to ensure that they obtain high quality container-grown nursery trees. The document is also intended to help nursery professionals in their efforts to improve the quality of trees grown in California. These specifications can be modified for specific simulations.

The following people worked on the **Guideline Specifications for Nursery Tree Quality**:

David Burger	UC Davis, Department of Environmental Horticulture, Davis
Barrie Coate	Consulting Arborist, Los Gatos
Larry Costello	UC Cooperative Extension, Half Moon Bay
Robert Crudup	Valley Crest Tree Company, Sunol
Jim Geiger	Center for Urban Forest Research UC Davis, Davis
Bruce Hagen	California Dept. of Forestry & Fire Protection, Santa Rosa
Richard Harris	UC Davis Department of Environmental Horticulture, Davis
Brian Kempf	Urban Tree Foundation, Visalia
Jerry Koch	City of Berkeley Division of Urban Forestry, Berkeley
Bob Ludekens	L. E. Cooke Company, Visalia
Greg McPherson	Center for Urban Forest Research, UC Davis, Davis
Martha Ozonoff	California ReLeaf, Sacramento
Ed Perry	UC Cooperative Extension, Stanislaus County
Markio Robert	Caltrans, LDA Maintenance Division, Oakland

Illustrations:

Front page, c) woody branches C. Trunk Type Illustration by Edward F. Gilman, Professor, Environmental Horticulture Department, IFAS, University of Florida.
All other illustrations adapted from Integrated Management of Landscape Trees, Shrubs and Vines, Fourth Edition, 2003, Harris, Clark, Matheny.
Photos: Brian Kempf
For more information contact Brian Kempf 559-713-0631 or brian@urbantree.org

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Larry Costello, UC Cooperative Extension, Half Moon Bay

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Jim Geiger, US Forest Service, Pacific South West

Region Bruce Hagen, California Department of Forestry and Fire Protection, Santa Rosa,

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Greg McPherson, US Forest Service, PSW Research Station, Center for Urban Forest Research

Martha Ozonoff, California ReLeaf, Davis

Ed Perry, UC Cooperative Extension, Stanislaus County

Markio Robert, Caltrans LDA Maintenance Division, Oakland







Strategies for growing a high quality root system, trunk and canopy in a container nursery



Draft 2009

Acknowledgments Steering Committee: *Dave Cox, LE Cooke Nursery; Haydi Boething Danielson, Boething Treeland Farms; Thomas Fetch, LE Cooke Nursery; Michael Frantz, Frantz Wholesale Nursery; Mark Marriott, Village Nurseries; John Serviss, Valley Crest Tree Co.; Sal Soriano, Monrovia; Chris Terry, Dave Wilson Nursery; Roger van Klaveren, Generation Growers.* Reviewers: Dr. Jim Clark, Hortscience Inc.; Dr. Laurence R. Costello, University of California Cooperative Extension; Sam Doane, J. Frank Schmidt & Son Co.; Bruce Hagen, California Department of Forestry and Fire Protection, Retired; Dr. Richard W. Harris, Professor Emeritus, University of California, Davis; Mark A. Halcomb, University of Tennessee Area Nursery Specialist Extension; Bruce Hammersmith, Skinners Nursery; Gordon Mann, Mann Made Resources; Michael D. Marshall, Marshall Tree Farm; John Melvin, California Department of Forestry and Fire Protection; Dave Muffly, Oaktopia.net; Dr. Daniel Struve, Ohio State University; Dennis Swartzell, Horticulture Consultants, Inc.; Dr. Gary Watson, Morton Arboretum; Keith Warren, J. Frank Schmidt & Son Co. This document was funded in part by a grant from the California Department of Forestry and Fire Protection.



Additional Information:

- Urban Tree Foundation - PDF and CAD details and specifications:
<http://www.urbantree.org/>
- International Society of Arboriculture – many resources for tree owners, arborists, contractors, planners and developers:
<http://www.isa-arbor.com/>