



City of Ann Arbor Citizen Pruner Training

January 27, 2024



Welcome!

Today

- Classroom Training
 - Learn about the basics of tree biology, tree pruning and the Citizen Pruner Program.
- Outdoor Training/Practice: February 3, 2024
- Sign-up to be a Citizen Pruner

Next Steps

- Citizen Pruner Volunteers will participate in workdays:
 - Saturday, February 17 (9:00 AM – 12:00 PM)
 - Sunday, March 3 (9:00 AM – 12:00 PM)
 - Saturday, March 16 (9:00 AM – 12:00 PM)
- Start Pruning!

Today's Agenda

9:00 AM – 10:30 AM

Virtual Classroom Session





Citizen Pruner Program

- The program began in 2011.
- Program Goal: encourage citizens to become stewards of Ann Arbor's urban forest by caring for newly planted street and park trees.
- We have trained 179 Citizen Pruner volunteers (so far), who have pruned over 2,300 trees!

Tools and
safety
equipment
were provided
through a
generous
donation from:

The Elizabeth Dean Fund
Committee
(www.a2gov.org/forestry)

City of Ann Arbor
Customer Service
Improvement Grant
Program

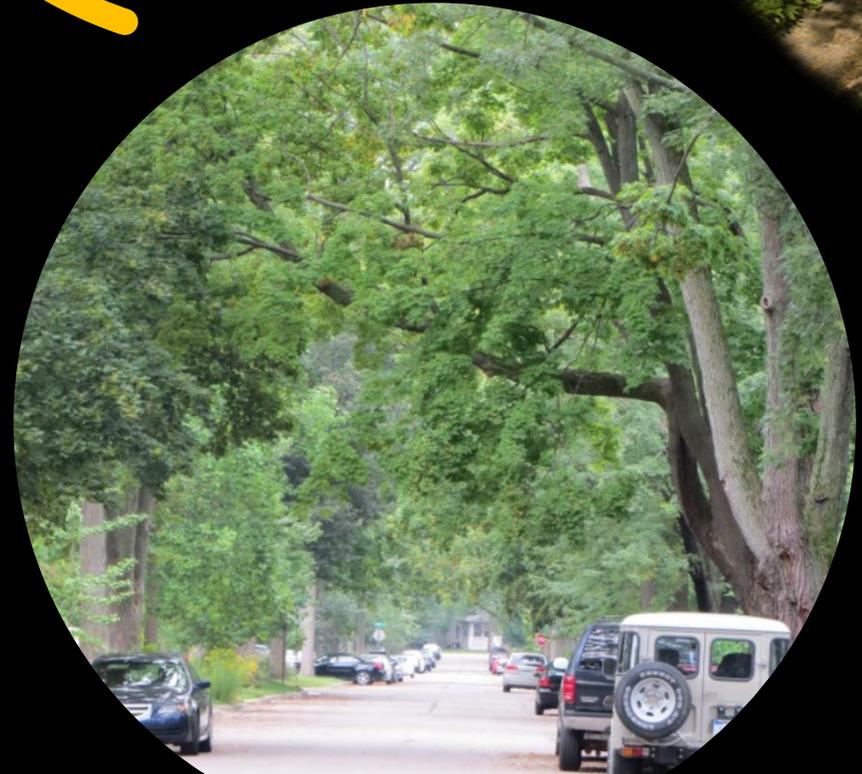
Thank you!

Ann Arbor's Urban Forest



Ann Arbor's Publicly-Managed Urban Forest

- The City Manages ...
- Approximately 49,500 Street Trees
- Approximately 8,000 Park Trees (mowed areas)
- Thousands of trees in natural areas.



- Right of Way
- Quarter Sections
- Township Island Parc
- Wetlands
- Woodlands
- Watersheds
- Schools
- Non City Open Space
- Parks
- University
- Water Service Distric
- City Boundary
- 1947 Ortho Imagery
- 2009 Ortho Imagery
- Sanborn
- 2006 Ortho Imagery
- 2002 Ortho Imagery
- Water Annotation
- Sanitary Annotation
- Storm Anno
- Easement Anno
- Road Labels
- Road Name Annotati
- Parcel Annotation
- SIDEWALK_INSPECTI

Identify

Identify from: <Top-most layer>

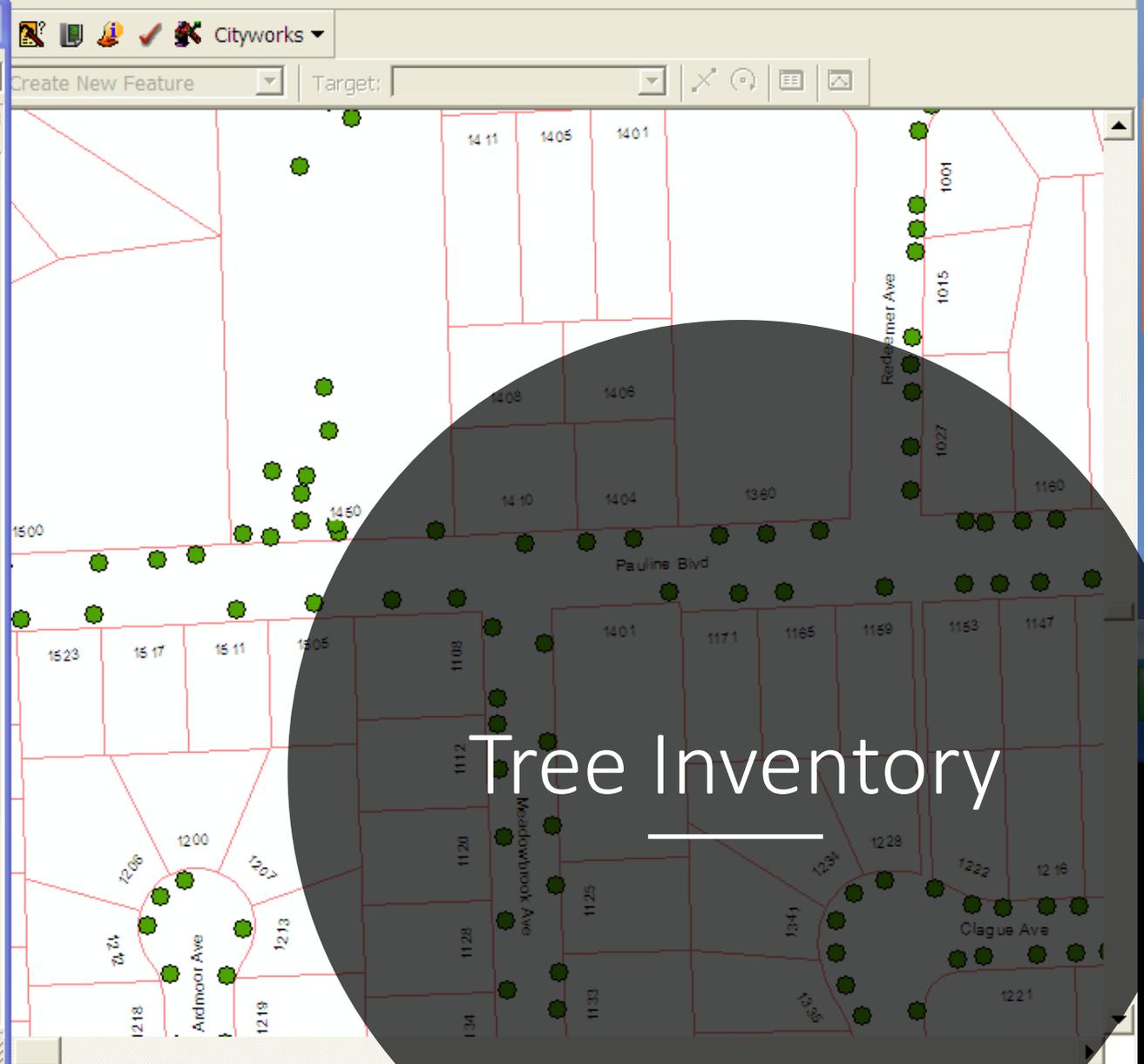
Tree

- oak, white

Location: 13,286,625.144 280,509.111 Feet

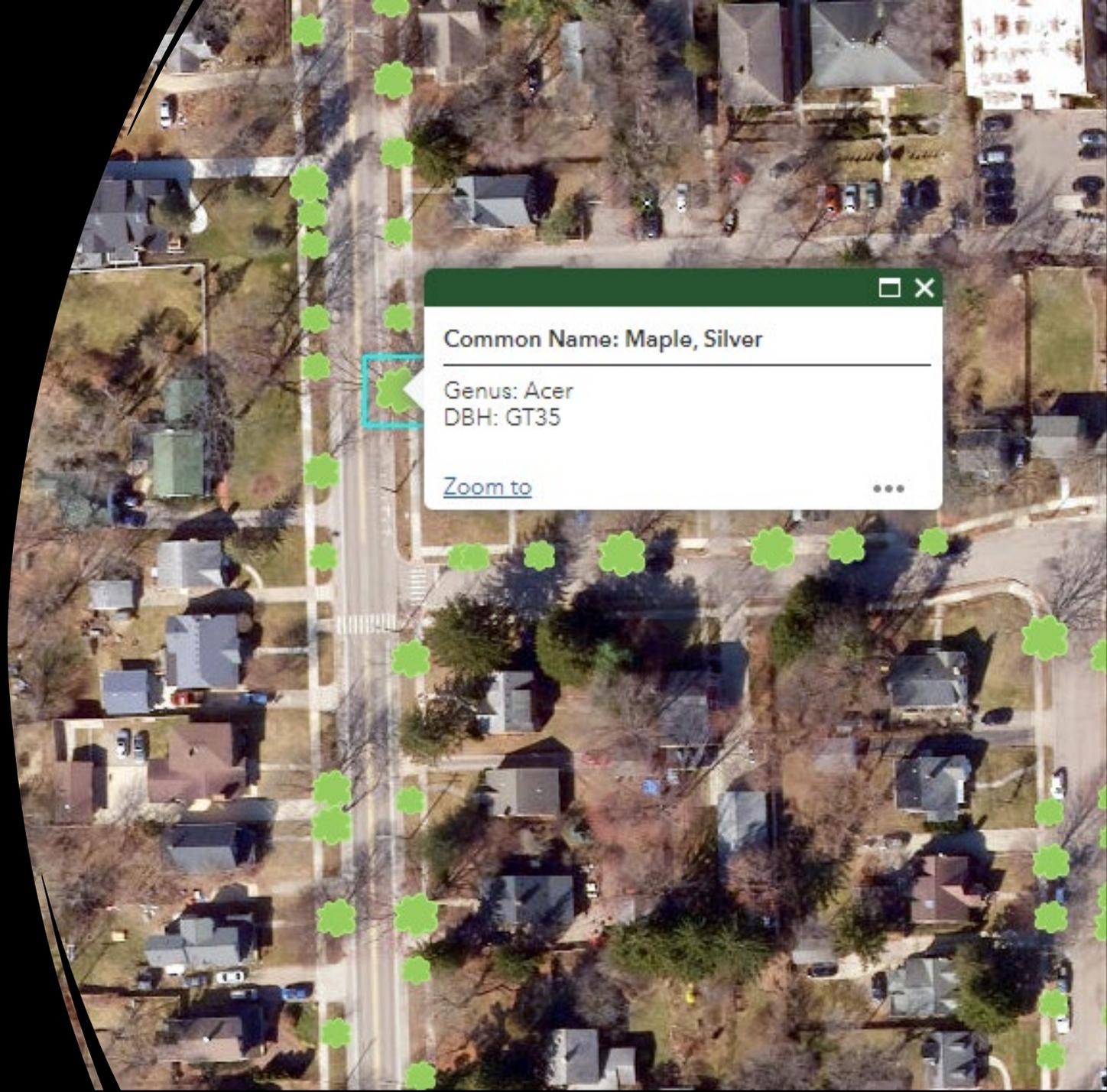
Field	Value
OBJECTID	34758
FACILITYID	11-034758
LEGACYID	MJ 20090212083626
CommonGenus	oak
CommonName	oak, white
BotanicalGenus	Quercus
Botanical	Quercus alba
Cultivar	
OnStreet	PAULINE BLVD
FromStreet	MEADOWBROOK AVE
ToStreet	VAN DUSEN DR
Side	Front
Site	1
ROW	99
Assigned	No
AddressNumber	1171
Street	PAULINE BLVD
Location	Street
X_COORD	13286612.5965
Y_COORD	280531.6675
WarrantyDate	<null>
Ownership	<null>
Maintenance	Priority 1 Prune
Inspect	No
ConditionTreeHealth	Fair
ConditionDate	2/12/2009
DBH2009	39
DBH	GT35
DBHDate	2/12/2009
Height	51-70
HeightDate	2/12/2009
TreePlantDate	<null>
TreeValue	<null>
TreeProgram	<null>
ManagementArea	<null>
InstalledBy	<null>
PestType	<null>

Identified 1 feature



Did you know you can access the Tree Inventory?

- <https://www.a2gov.org/services/GIS/Pages/default.aspx>



Urban Forest Management Plan

- In June 2014, Ann Arbor City Council adopted the city's *first* Urban Forest Management Plan.
- The Plan provides recommendations and action steps to maintain a sustainable urban forest.
- To view the plan, visit: www.a2gov.org/forestry

**Management Plan
Update This Year!**



CITY OF ANN ARBOR URBAN & COMMUNITY FOREST MANAGEMENT PLAN



ADOPTED BY ANN ARBOR CITY COUNCIL ON JUNE 2, 2014

Urban
Forestry
Activities:
Fiscal Year
2023
(July 1, 2022
– June 30,
2023)

Tree Removals: 697

Priority Pruning: 4,610

Stump Removal: 619

Public Tree planting: 1,079

Private Tree Planting: 0

Seedling Giveaway: 2,270

Service Requests: 2,911

Maintenance

#1 Maintenance need of the city-managed urban forest is:
P R U N I N G

Approximately 75% of the trees need Routine Pruning. Over 17,000 trees require young tree pruning.





Tree Biology



Trees Need

- Water
- Air (carbon dioxide & oxygen)
- Light
- Nutrients
- Space





Leaves

Parts of a Tree

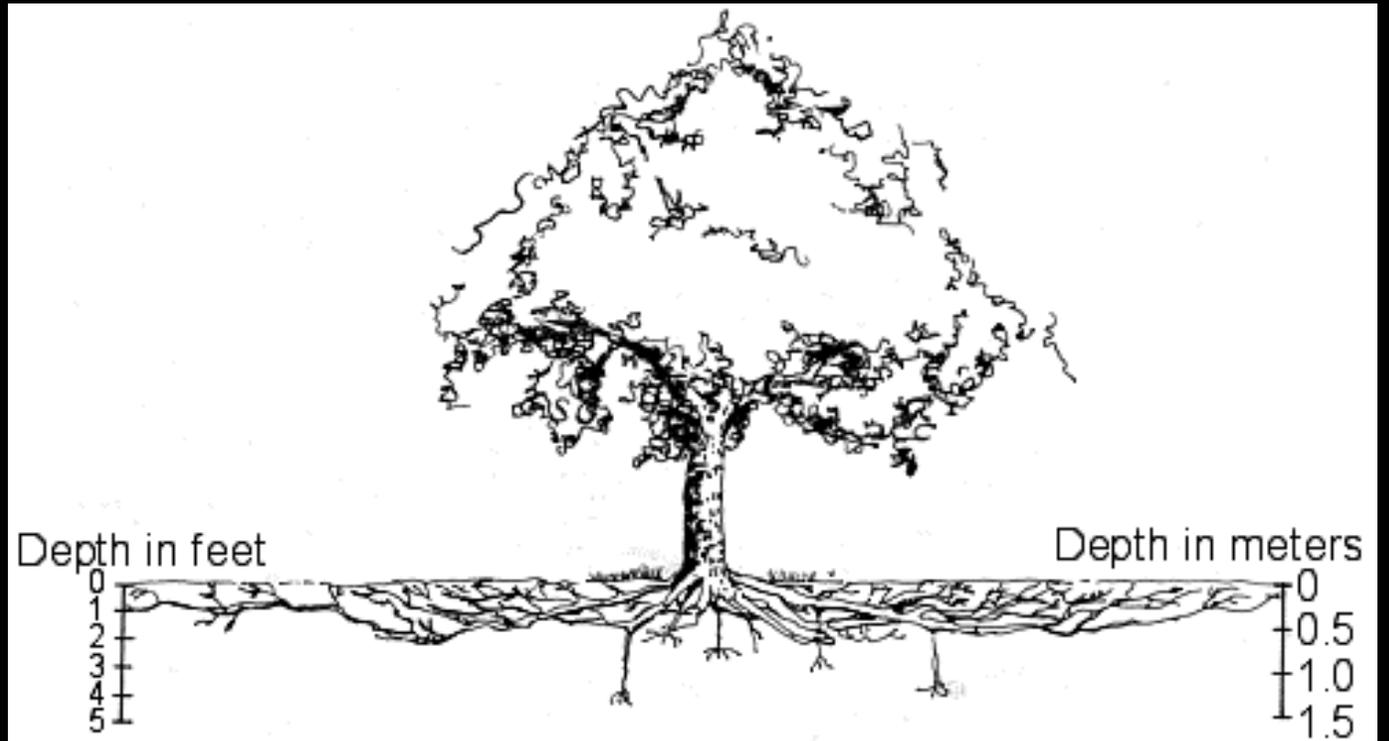
**Trunk &
Branches**

Roots



Roots

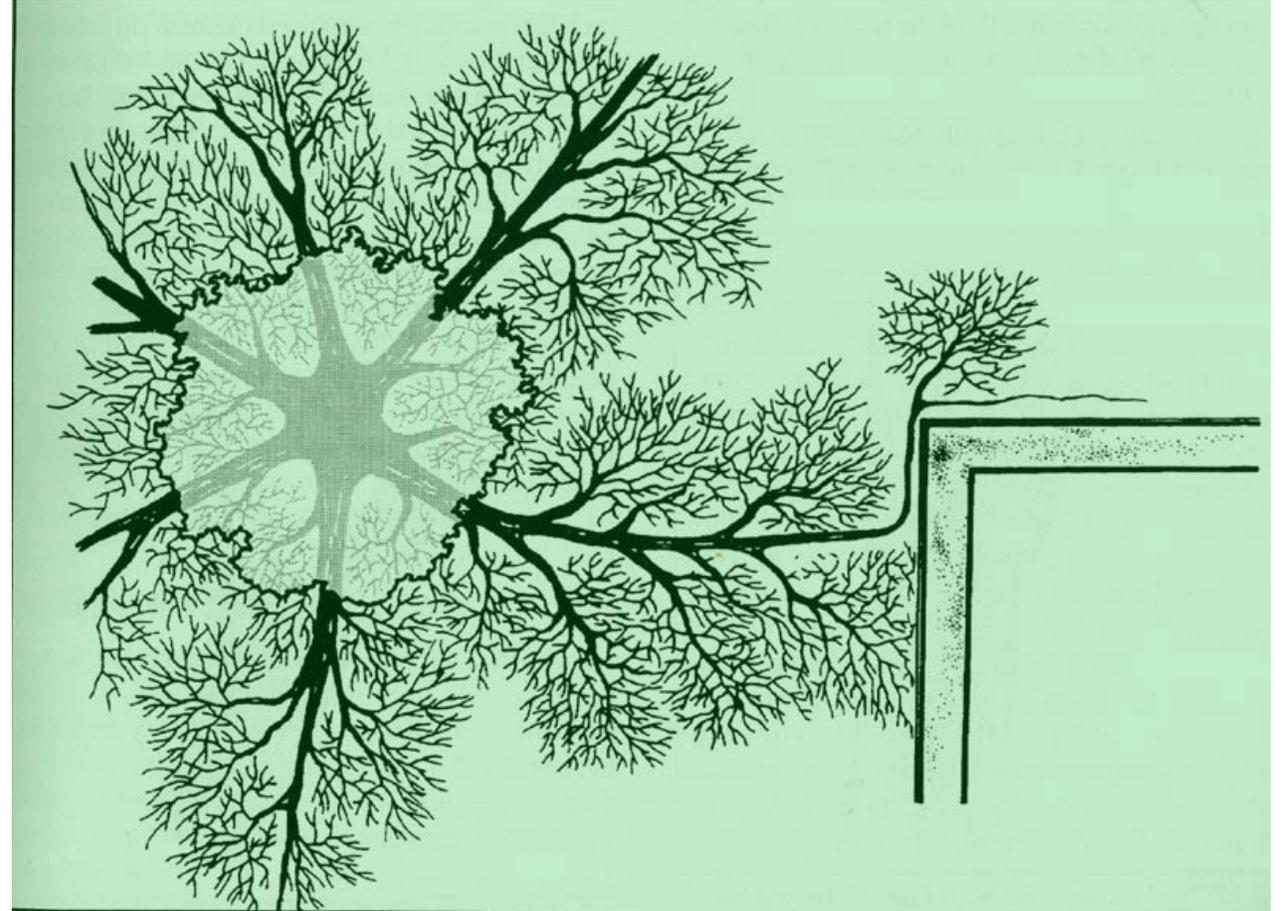
- Anchor and support
- Absorb water, nutrients, and oxygen
- Store carbohydrates
- Transport water and nutrients



Where do roots grow?

Anywhere that there is adequate ...

- Moisture
- Oxygen
- Temperature
- Nutrients



Source: Tree Pittsburgh

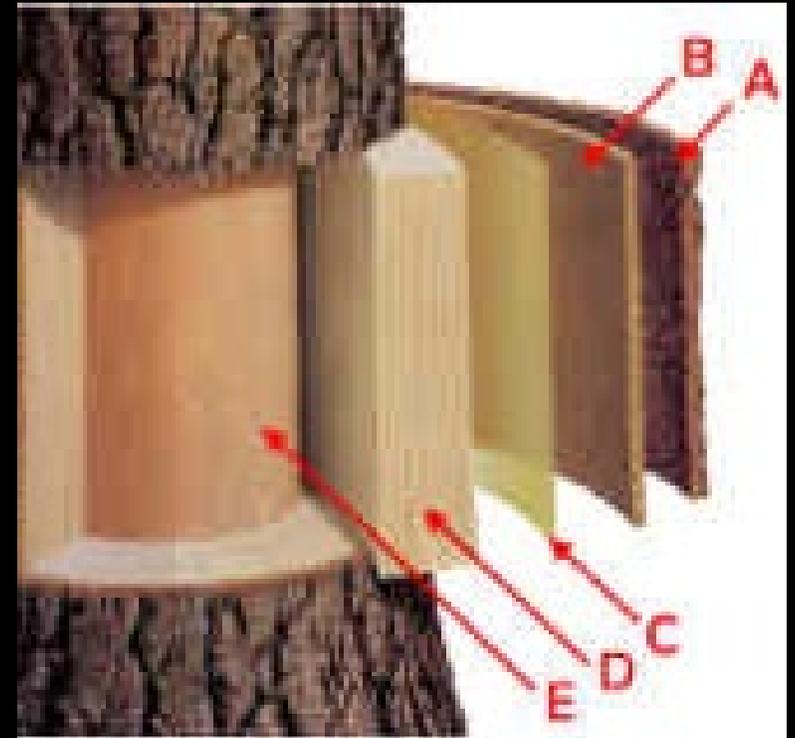
Trunk & Branches

- Conduct water and nutrients
- Support growth
- Add strength



Trunk

- A. **Bark** – trees defense against the outside world.
- B. **Phloem** – food transport system. Lives for a short time and then turns to cork and becomes part of bark.
- C. **Cambium** – living part of trunk and produces new wood and bark annually.
- D. **Xylem (sapwood)** – tree's water and nutrient transport system. Made of newly formed wood.
- E. **Heartwood** – central support of the tree.





Leaves

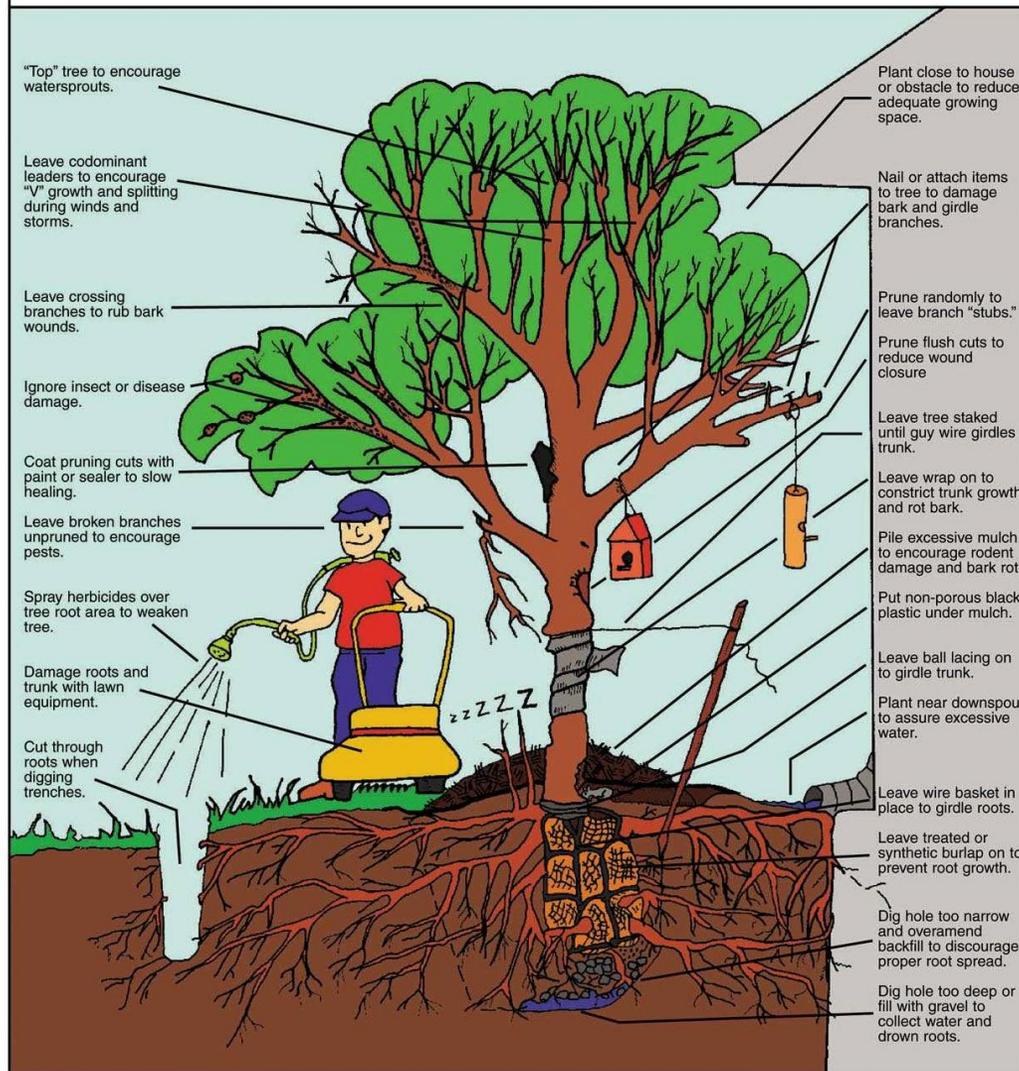
- Photosynthesis – process that converts CO₂ into carbohydrates using energy from sunlight.
 - Respiration – process that releases energy from food created in photosynthesis.
 - Transpiration – evaporation of water vapor from tree leaves.
- 



HOW TO KILL A TREE



Few residential trees die of "old age." Mechanical damage and improper tree care kill more trees than any insects or diseases. Avoid making the tree-damaging mistakes shown in the diagram below!



Tree Pruning

**“Pruning is an art of dexterity and skill,
acquired through practice ...”**

- Tree Pittsburgh

Tree Forms

TREE FORMS



ROUND



SPREADING



PYRAMIDAL



OVAL



CONICAL



VASE



COLUMNAR



OPEN

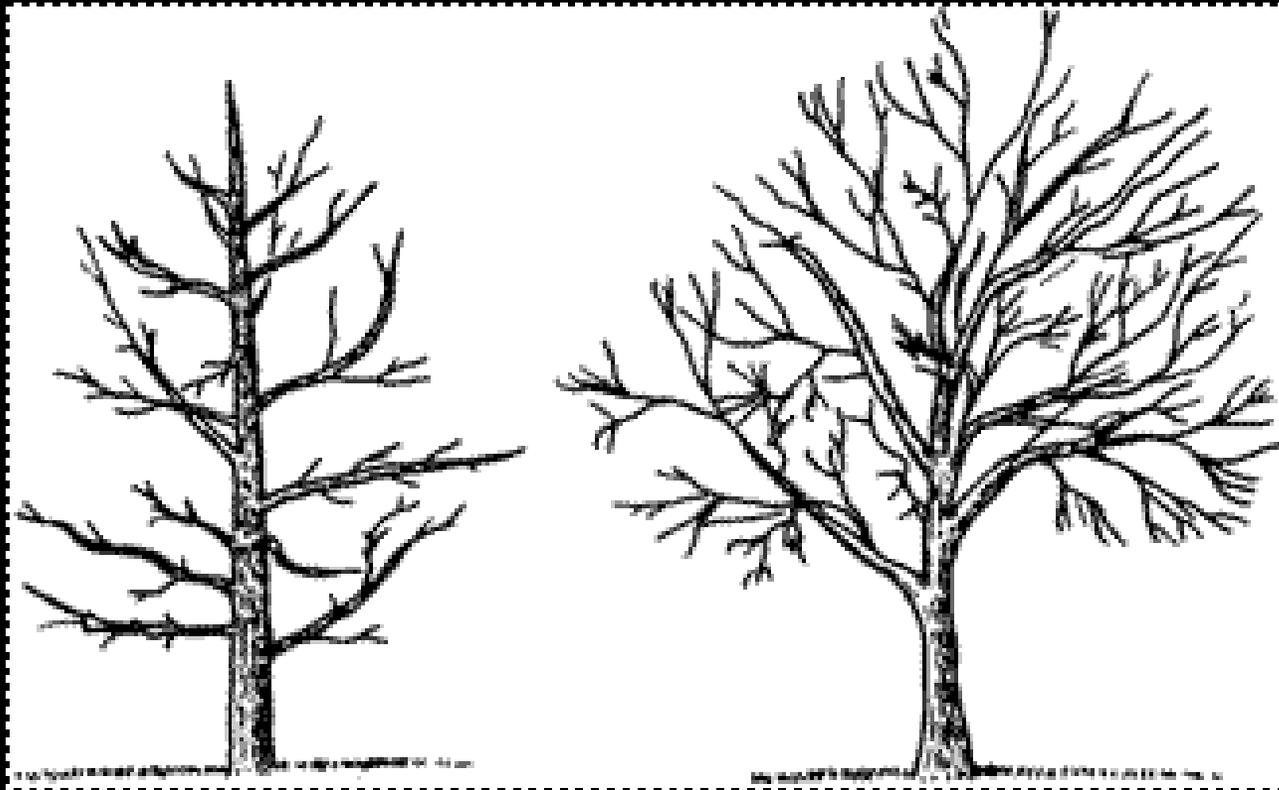


WEEPING



IRREGULAR

Tree Forms



Excurrent

Strong central leader &
pyramidal shape

Decurrent

Several to many lateral
branches compete with
central stem for dominance.
Globe/spherical form.

Tree Forms: Excurrent

Strong central leader & pyramidal shape

Example: Conifers and few hardwoods (Sweetgum and Tuliptree)



White spruce



Tuliptree

Tree Forms: Decurrent

Several to many lateral branches compete with central stem for dominance. Globe/spherical form.

Example: Most hardwoods



The background features a repeating pattern of question marks inside speech bubbles. The speech bubbles are arranged in a staggered grid. The colors of the bubbles and question marks vary, including light blue, white, and grey, creating a layered, 3D effect. The overall background color is a dark teal.

Why do we prune trees?

Why do we prune trees?



Safety & Clearance – remove limbs that pose a safety hazard along sidewalks and the road.



Health & Structure – to develop strong structure and remove diseased limbs.



Aesthetics – make our street and park trees look good.

Pruning for Safety & Clearance

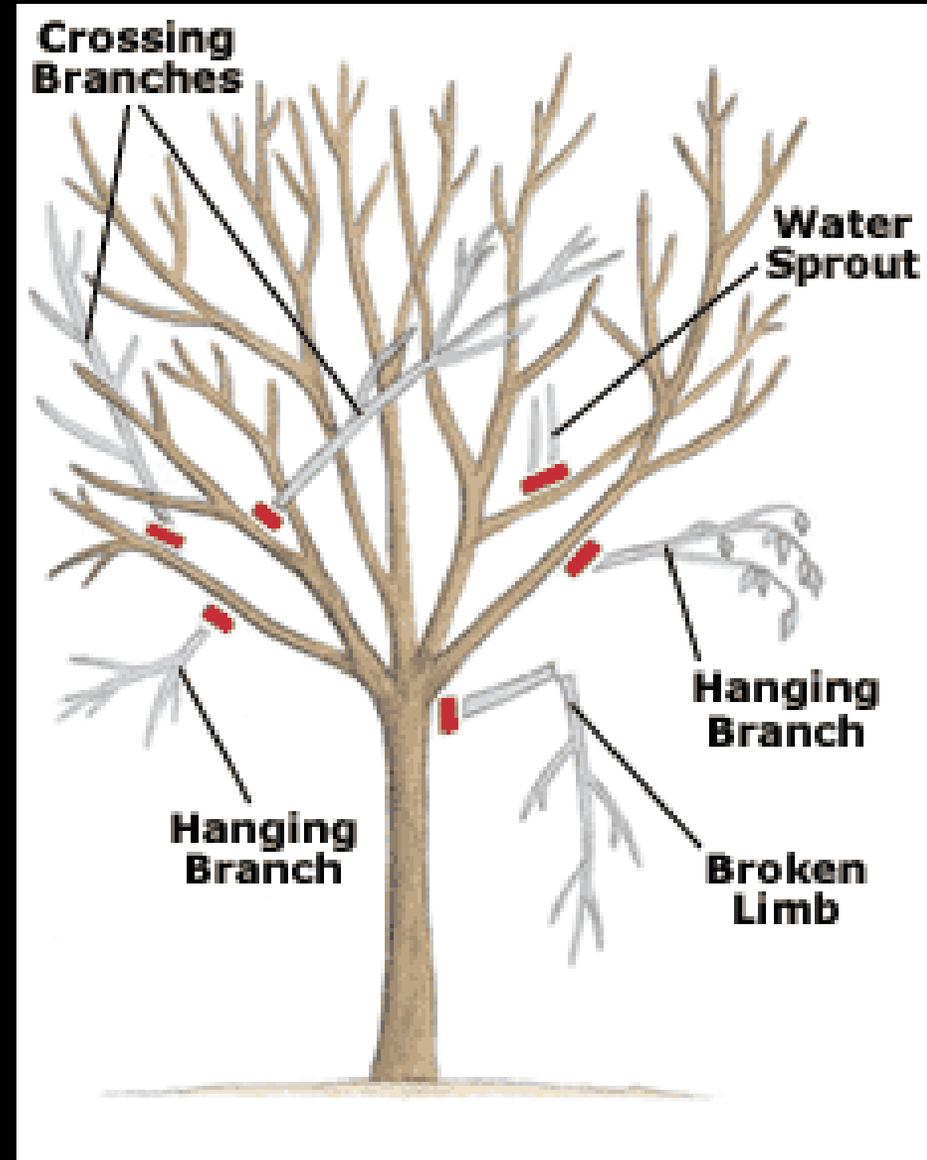
- Removal of branches that could fall or cause harm
- Clearance of sidewalks and streets
- Removal of branches near signs and traffic signals



Pruning for Health & Structure

- Dead and damaged/broken limbs
- Diseased & insect infested branches
- Crossing and rubbing branches

Pruning helps to develop a strong structure to reduce damage caused by severe weather



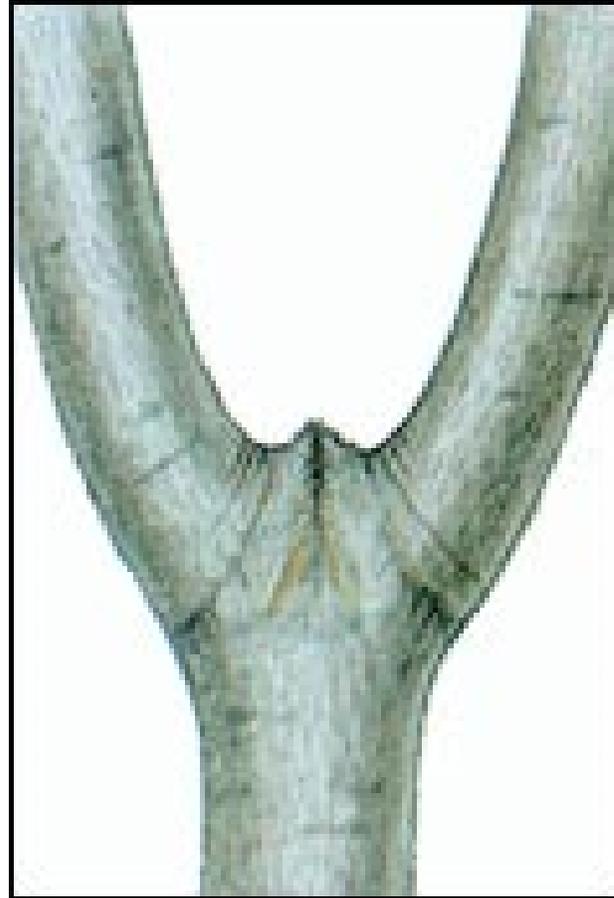
Pruning for Health & Structure

What happens when crossing and rubbing branches are not removed

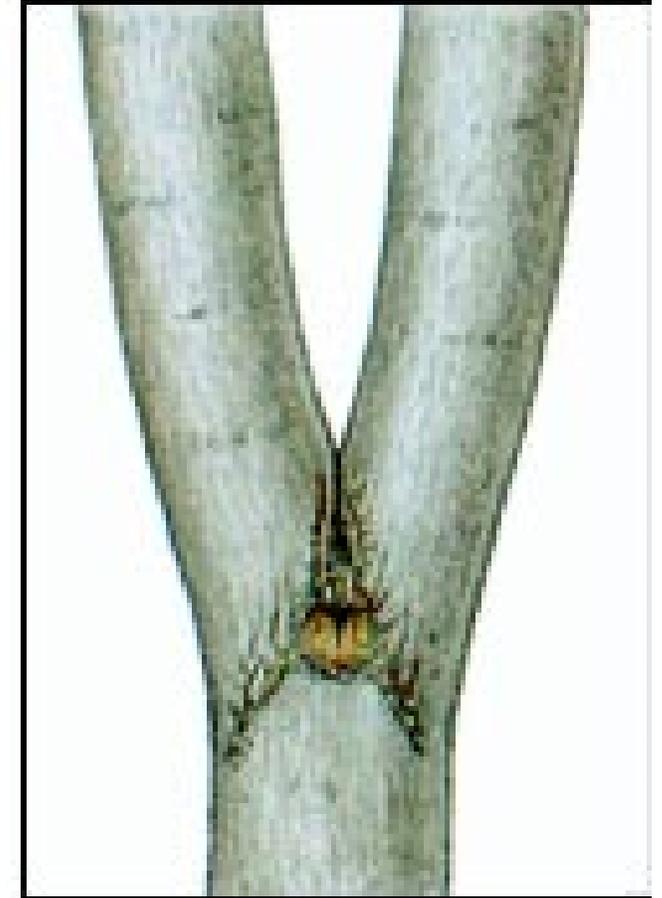


Pruning for Health & Structure: Branch Unions

Types of Branch Unions



A. U-shaped strong union



B. V-shaped weak union

Figure 3. Types of branch unions

Source: USDA Forest Service – NA-FR-01-95



Pruning for Health & Structure: Co-Dominant Stems

- Forked branches of nearly the same size that lack a normal branch union
- V-shaped weak union where included bark may be present
- Eventually will lead to failure of tree



Pruning for Aesthetics

- Enhancing the natural form and character of the tree
- Improve beauty
- Improve views





Before Pruning



After Pruning by Citizen Pruner



Before Pruning



After Pruning by Citizen Pruners

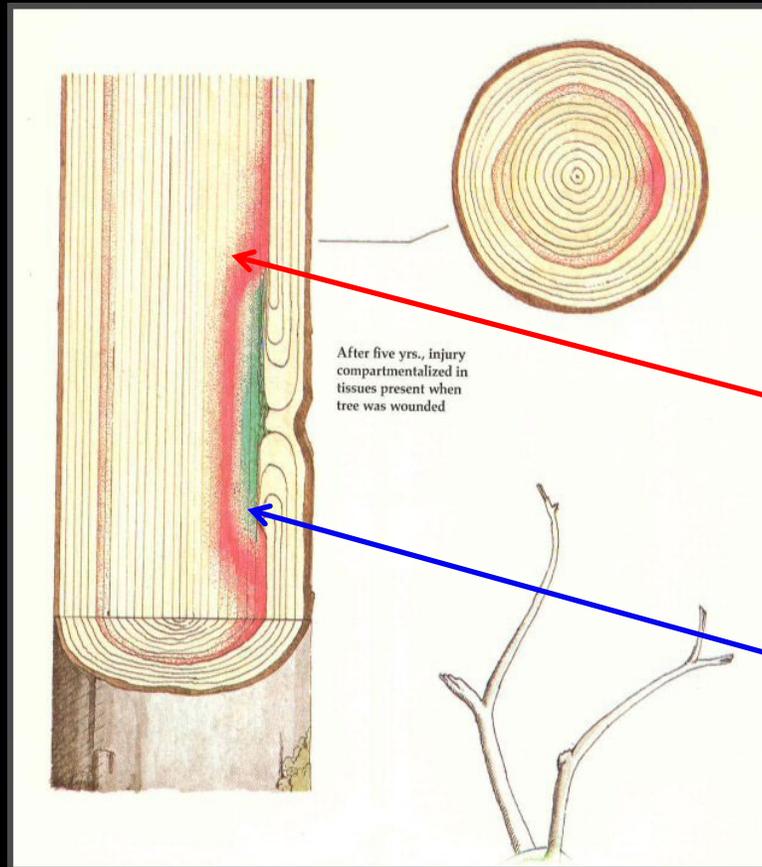


Understanding a Tree's Response to Pruning

Knowledge of a tree's natural characteristics and response to pruning guides proper pruning practice.

Understanding a Tree's Response to Pruning

- When we prune a tree, we *wound* it. Trees respond to a wound with a two-step process called **compartmentalization**.



Green: Decay organisms

Red: STEP 1 Formation of Boundary Layer making existing wood around wound unsuitable for decay organisms

Blue: STEP 2 Formation of Barrier Zone New wood grows around wound forming a protective boundary that prevents decay/infection from spreading into wood formed after wounding

Tree's Response to Wounding



Proper Pruning Cut



Partial Wound Closure

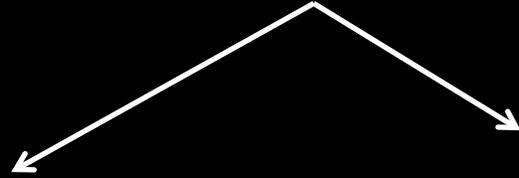


Complete Closure

Poor Wound Closure



Flush cut wound



Poor wound closure from leaving a
branch stub too long





Wound Dressing?

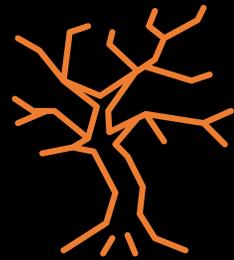
- Not recommended
- Does not accelerate wound closure or reduce decay

Understanding a Tree's Response to Pruning

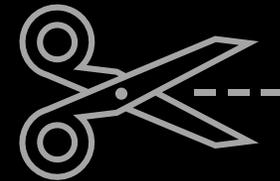
We can lessen the amount of wounding and decay through proper pruning techniques.



Proper Pruning Techniques

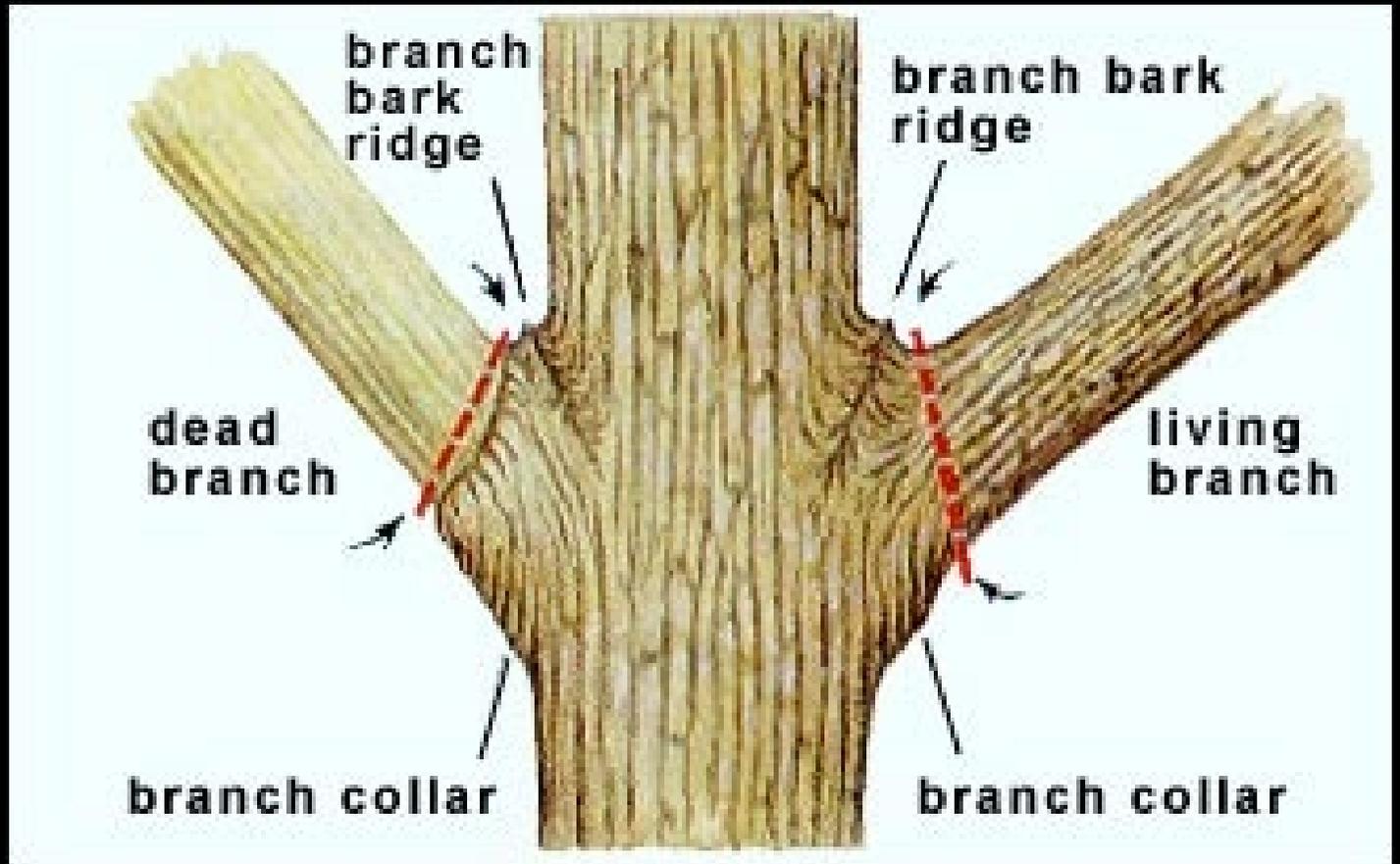


Location of Pruning
Cuts



Pruning Methods

Location of Pruning Cuts



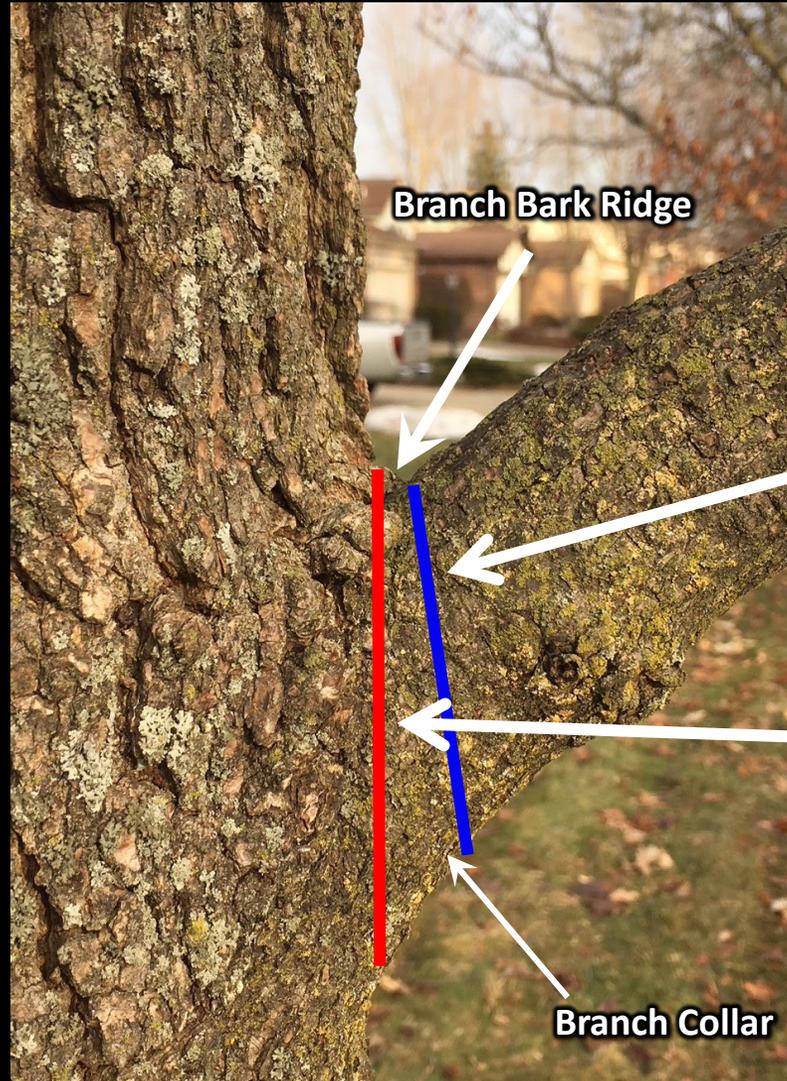
Location of Pruning Cuts



Line 1 CORRECT location of a pruning cut - outside the branch bark ridge and bark collar

Line 2 INCORRECT location of pruning cut - inside branch bark ridge and collar

Location of Pruning Cuts



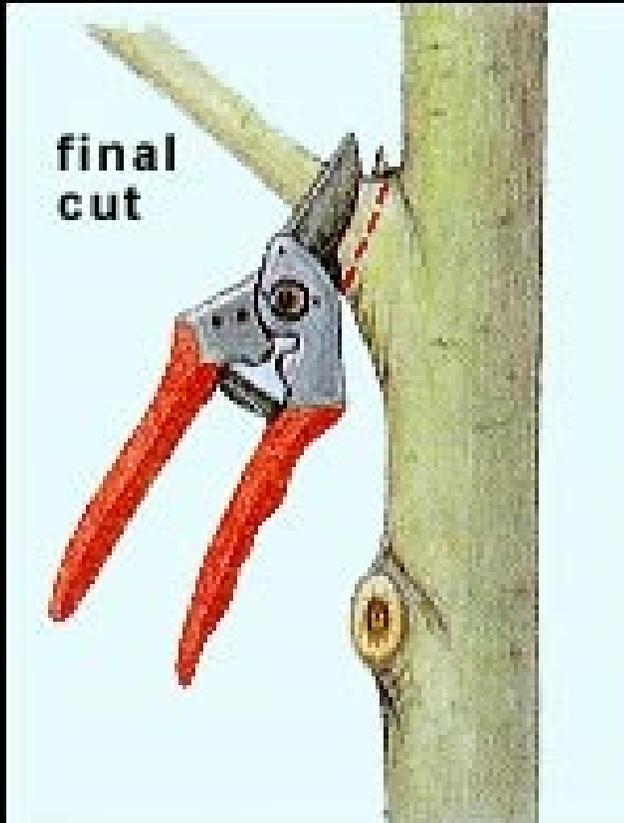
Line 1 CORRECT location of a pruning cut - outside the branch bark ridge and bark collar

Line 2 INCORRECT location of pruning cut – inside the branch bark ridge and bark collar

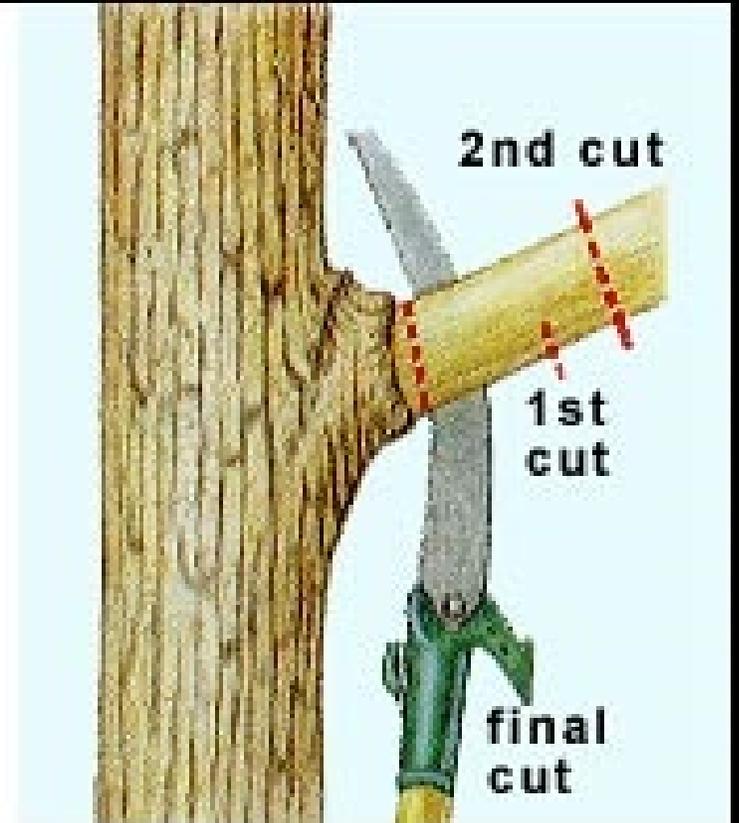
Proper Pruning Cuts



Pruning Methods



B. Cutting a small branch



C. Cutting a larger branch

Pruning Methods: Three Cut Method



Pruning Methods: Three Cut Method



Final Cut: Remove remaining stub

Pruning Methods: Three Cut Method



1st Cut:
Undercut



2nd Cut:
Move outside of
undercut –
remove branch



3rd Cut (Final Cut): Remove remaining stub





1st Cut:
Undercut



2nd Cut:
Move outside of undercut –
remove branch



3rd Cut (Final Cut)
Remove remaining stub



Three Cut Method –
prevents tearing





What can happen when you **DO NOT** use the Three Cut Method for larger branches.

Pruning Methods: Cuts



Branch Stub too Long



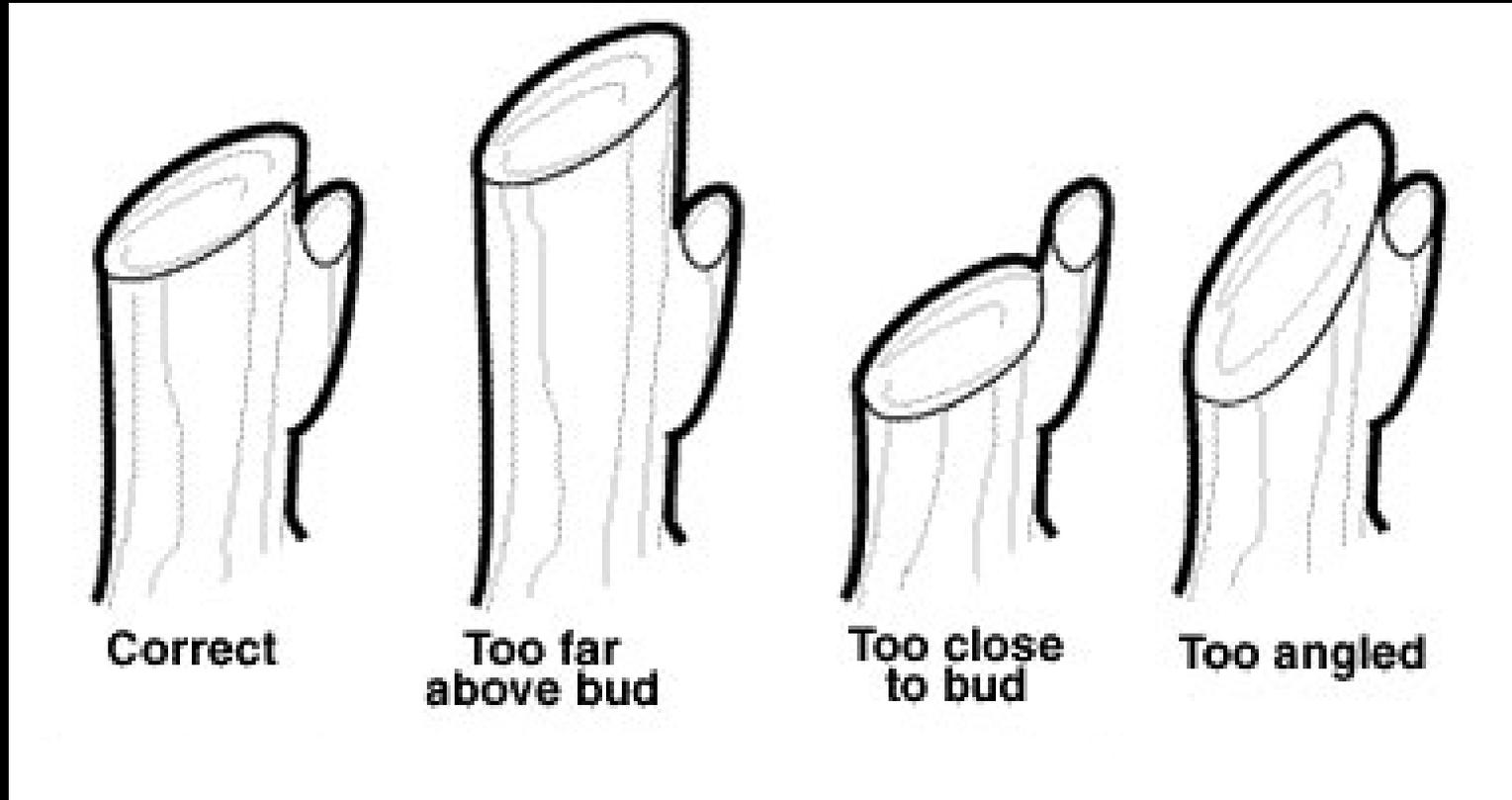
Flush Cut



Proper Pruning Cut

Pruning Methods: Pruning Back to a Bud

General Rule:
Prune about
½" above bud



Pruning Rules, Tools, & Approach to Pruning

Rules of Pruning

- **Know Your Tree Species.** Know what type of tree you are pruning and best time of year to prune.
- **Proper Timing.** Pruning late in the dormant season is ideal for most trees (Feb – early April) including summer flowering trees
 - Trees that flower in the spring should be pruned immediately after they bloom (except crabapples)
 - Do not prune oaks, elms, and crabapples in summer
 - Ideally, pruning should begin 1 year after planting and continue at years 3 and 5.



Rules of Pruning continued

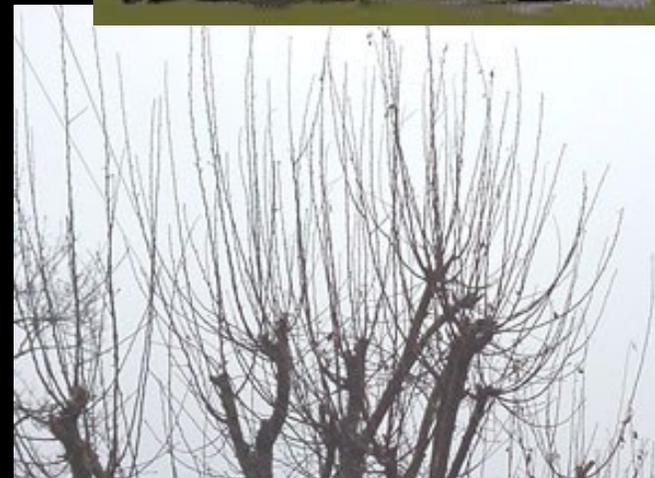
- **Always have a purpose in mind before making a cut.** Each cut has the potential to change the growth of the tree.
- **Proper technique is essential.** Poor pruning can cause damage that lasts for the life of the tree.
- **Trees do not heal the way people do.** When a tree is wounded, it must grow over and compartmentalize the wound. Smaller cuts do less harm than larger ones.

Rules of Pruning continued

- **Pruning for Aesthetics & Structure.** Pruning for structure and aesthetics should be done *over several years*
- **1/3 Rule.** Remove no more than 1/3 of the live branches.
- **No Topping.** Topping is the removal of the tops of dominant branches to reduce height and spread

Why we don't Top Trees

- ❑ **Topping Stresses Trees**
 - ❑ Causes lateral buds to put out weak wooded and poorly attached branches (“water sprouts”)
- ❑ **Topping Causes Decay**
 - ❑ Creates stubs and wounds that the tree is not able to properly close
- ❑ **Topping Creates Hazards**
 - ❑ New shoots are weakly attached, grow rapidly and are prone to breakage
- ❑ **Topping is Ugly**



Waters sprouts on topped branches

Approach to Pruning

- Start by walking around the tree- look at it from all angles
 - Identify any hazardous or potentially hazardous conditions
 - Know the species, general age and tree's natural form
 - Look for...
 - Dead and diseased branches
 - Crossing or rubbing branches
 - Poor branch angles
 - Co-dominant leaders
 - Sprouts at base
 - Branches that pose a safety risk
- Always have a purpose in mind before making a cut



Approach to Pruning: Think Safety First



Take your time become familiar with the site and tree before pruning



Know where the branches will fall and make sure they will not injure you, fellow Citizen Pruner or a bystander or damage personal property

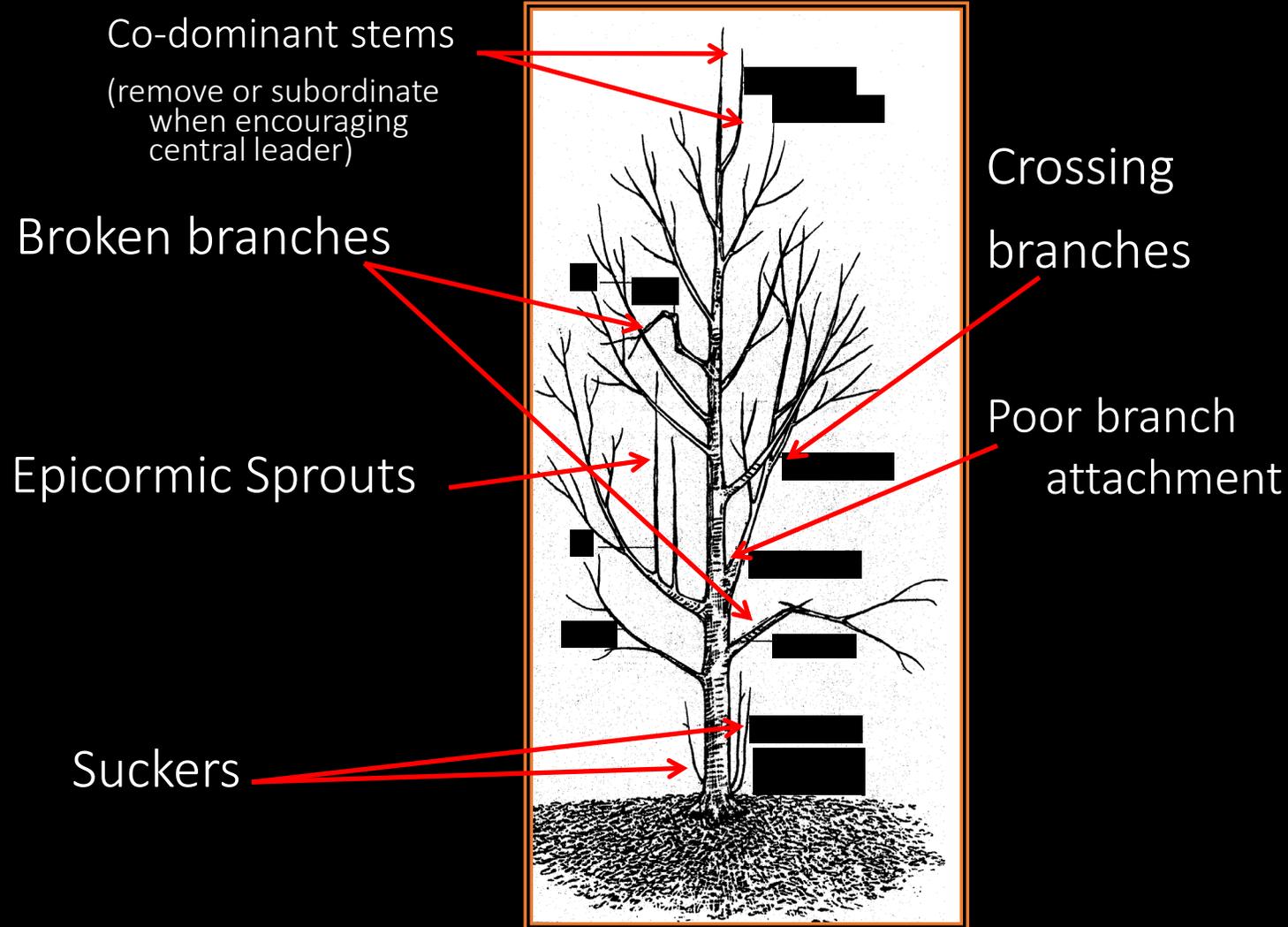


Safety glasses, leather gloves, hard hats and safety vests are required to prune city trees

Approach to Pruning: Making the Cut

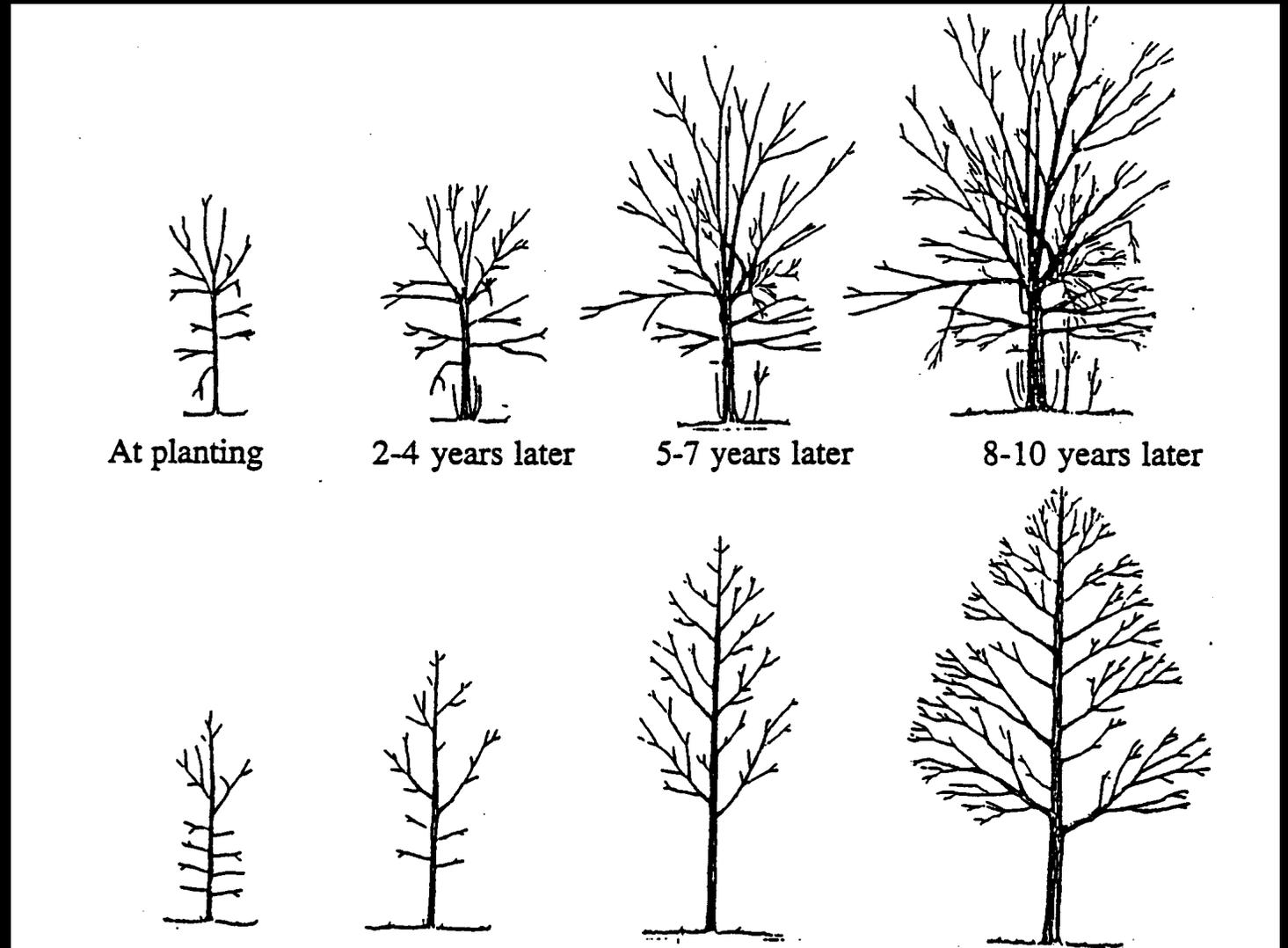
- Use the proper tool.
- Identify the Branch Bark Ridge. Stay just **outside** both.
- Make the cut carefully and at the right location.
- Use the Three Step Method for larger branches.
- Make a smooth cut with no jagged edges.
- Prune back to the bud, parent branch, or trunk.

Approach to Pruning: EXAMPLE



Benefits of Young Tree Pruning

Growth habit of a shade tree that has been properly pruned when young (bottom) when compared with one that received no pruning (top).



Tools

- Select the proper tool for the job.
- Tools should be clean and sharp.
- Use Lysol, rubbing alcohol, or 10% bleach solution to clean tools between trees (or between cuts when working on diseased trees).

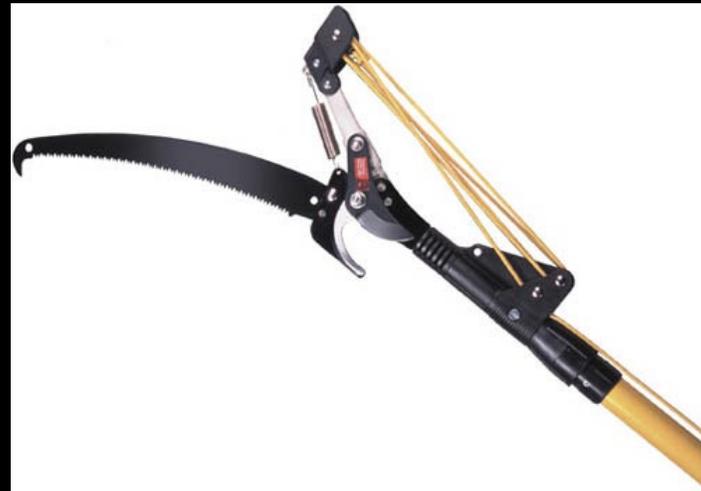
Hand Saws



Hand Pruners



Pole pruners



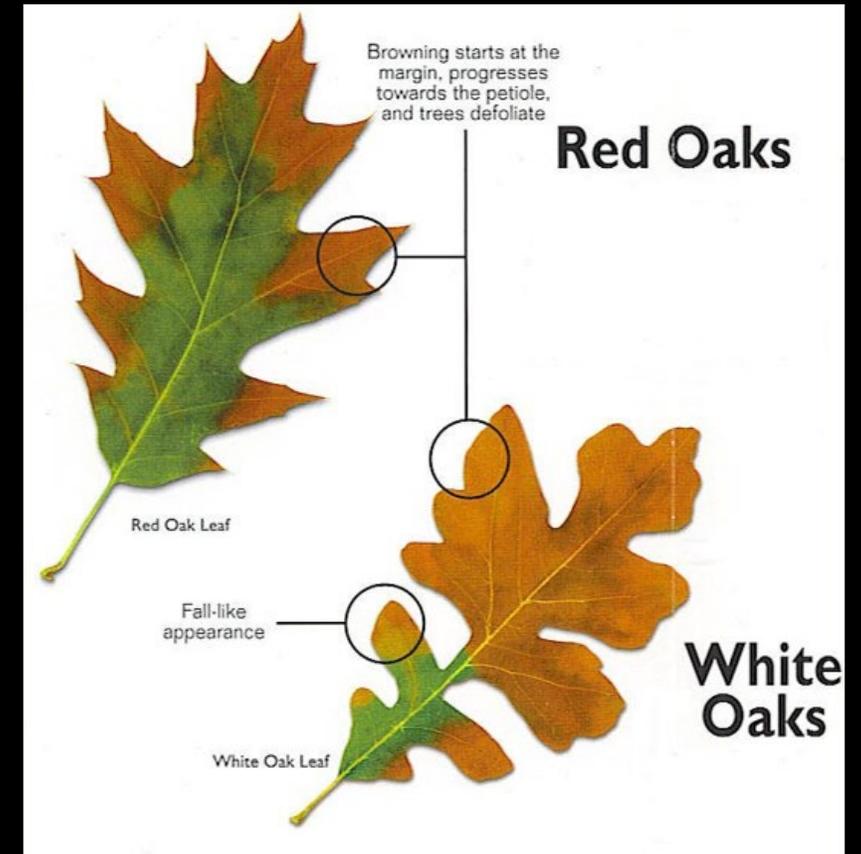
Pests



Be on the Look Out!

OAK WILT (OW)

- OW is a vascular disease transmitted by picnic beetles and root grafts from infected trees to healthy trees.
- Trees in the Red Oak family are most susceptible, including northern red oak, pin oak, black oak, and scarlet oak.
 - Trees can die within several months of infection.
- OW was found in Bird Hills Nature Area in August 2023.



Be on the Look Out!

BEECH BARK DISEASE (BBD)

- American beech (*Fagus grandifolia*) affected.
- BBD has been found in the northeastern US, in the Manistee area, and the UP of Michigan.
- Infection Process:
 - Tree trunk is infested by a scale insect.
 - Scale feeds on the trunk creating small holes that allow a fungus (*Nectria*) to enter and infect the tree.
- Causing widespread death to American Beech.



Trunk on a healthy Beech



Trunk of a Beech tree with a heavy beech scale infestation

Be on the Look Out!

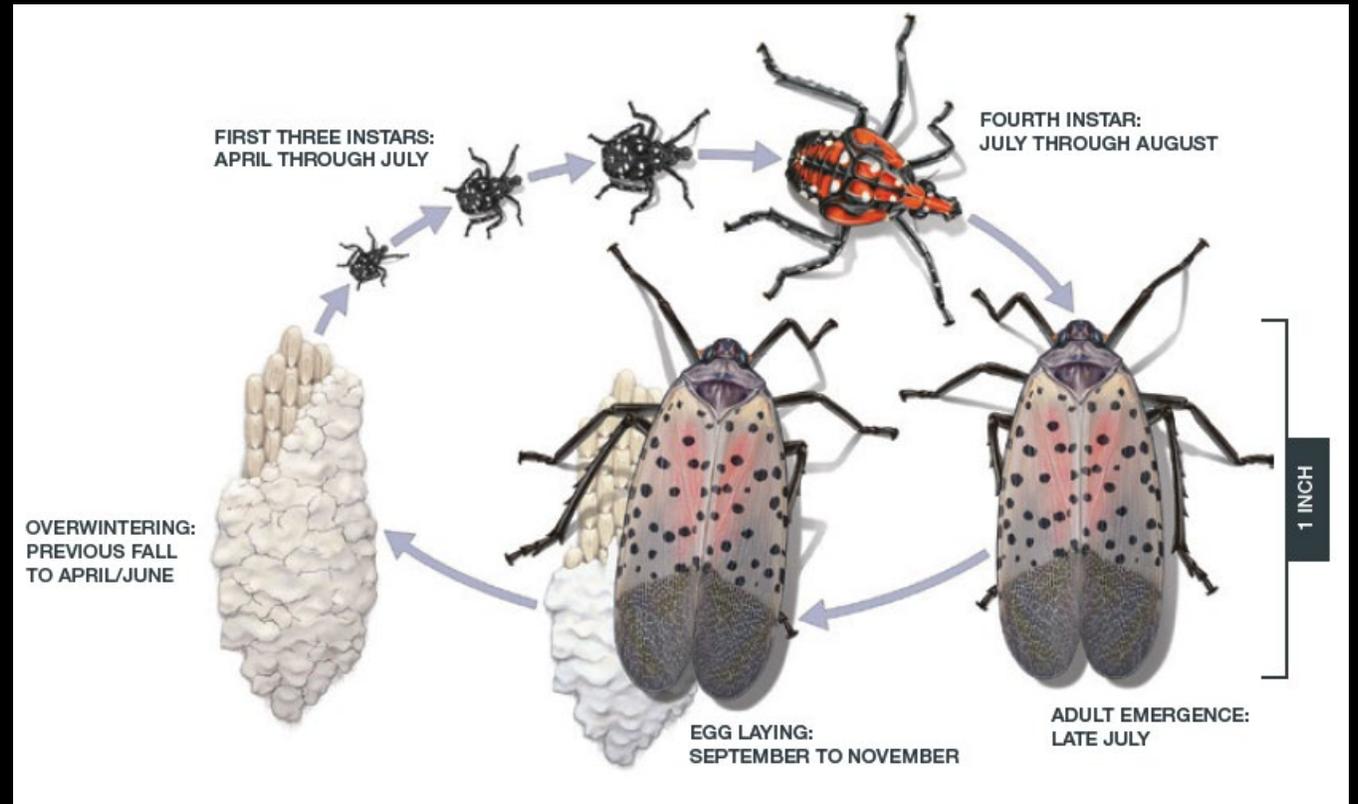
Asian Longhorned Beetle (ALB)

- Found in Chicago (eradicated), Toronto, New York, New Jersey, Massachusetts, and Ohio.
- NOT found in Michigan (yet).
- Preferred Species
 - Maple
 - Horsechestnut/Buckeyes
 - Elms
 - Willows



Be on the Look Out! SPOTTED LANTERNFLY (SL)

- Found in Michigan in 2022.
- Preferred Species
 - Tree of Heaven (*Ailanthus altissima*)
 - Over 70 plant species, including hops.



Be on the Look Out! Beech Leaf Disease (BLD)

- Found in Michigan 2022.
- BLD affects and kills both native and ornamental beech tree species.
- It is associated with a nematode, *Litylenchus crenatae mccannii*.
- This disease has only been discovered in recent years and much about it, including the full cause and how it spreads, it still unknown.



Be on the Look Out!

WHAT TO DO

What do you do if you see any of these pests or other pests you are concerned about?



- Take a picture or sample of the subject pest.
- Note the location (specific address) and the species/type of tree plant you find it on.
- Contact the City of Ann Arbor
Tiffany Giacobazzi
(tgiacobazzi@a2gov.org)
734.794.6356

Citizen Pruner Program



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Citizen Pruner Program: Volunteer Requirements

- Certification Requirements Include:
 - Ability to fulfill volunteer tasks as listed.
 - Commit to participate in at least one workday.
 - Ability to safely use small hand tools overhead, working from ground level.
 - Ability to lift up to 30 pounds.
 - Access to transportation.
 - See volunteer job description for additional requirements.

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Citizen Pruner Program: Volunteer Responsibilities

- Participate in Pruning Workdays
 - Work from the ground only.
 - Remove suckers and weeding around trees.
 - Prune damaged, dead, and diseased limbs.
 - Remove low branches for clearance.
 - Prune to shape for proper structure.
 - Cleanup of all pruned limbs and other debris.
 - Monitor and report tree problems.
 - Assist in updating street and park tree inventory.
- Educate the Public
 - Importance and techniques of tree trimming.
 - Help promote the Citizen Pruner Program.

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Citizen Pruner Program: Volunteer Safety & Training

- Volunteers will receive instructions and information concerning the site and the scope of the pruning project.
- All Citizen Pruners will wear appropriate personal protective equipment.
- Volunteers will always be alert and watchful when using tools.
- Report any concerns to city staff as soon as possible.

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Citizen Pruner Program: City Staff Responsibilities

- Coordinating volunteer training and educational support.
- Providing technical guidance on pruning and maintenance tasks.
- Organizing Citizen Pruner workdays.
- Providing safety equipment and tools.

Contacts:

- Tiffany Giacobazzi, Urban Forestry & Natural Resources Planning Coordinator
 - tgiacobazzi@a2gov.org or 734.794.6356
- Jamie Pauline, Urban Forestry Intern
 - jpauline@a2gov.org

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Citizen Pruner Program: A Typical Workday

- Meet onsite.
- City staff/Advanced Citizen Pruner Volunteers hand out tree pruning assignments.
 - Maps, addresses/tree species list and other important information.
- Break-up into teams of 2-4 people.
- Each team takes a set of tools.
- Prune trees.
 - Staff/Advanced Citizen Pruner volunteers will be around to answer questions.
 - Utilize experience and expertise of other volunteers in team.
- Pile pruned branches at the curb for pickup or bring to designated location.
- Bring tools back to the staging area at the end of the workday.
- Workdays last approximately 3 hours.



Citizen Pruner Program: Weather

- Inclement weather may impact workdays. If there is a Winter Weather Advisory or Winter Storm Watch / Warning, staff will cancel the workday.
- In the event we must cancel, staff will call each volunteer to notify them the event is cancelled.
 - Please make sure you have provided your cell phone information to Tiffany Giacobazzi or Jamie Pauline.
- Dress in layers. Hand and foot warmers are a good idea.
 - Note: We do not provide these.
- We do not cancel due to cold weather, unless there is a windchill advisory.



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Citizen Pruner
Program:
Other
Opportunities

• **Eyes on the Forest**

- Michigan State University Extension (MSUE) program.
- Volunteers “adopt” a Sentinel Tree, periodically monitor it and provide updates on its condition to MSUE.



• **10,000 Trees Initiative**

- Goal of seeing 10,000 new trees planted on private property in the city by the year 2030.
- Through the Community Tree Planting program, the City and a group of volunteers gather to plant trees in a neighborhood, apartment complex, or other community - at no cost to the residents!
- Please reach out to Sean Reynolds, Senior Analyst for more information. sreynolds@a2gov.org.



2024 Workday Schedule

- Field Training Day: Saturday, Feb. 3 (9:00 AM – 11:00 AM)
- Workday #1: Saturday, Feb. 17 (9:00 AM – 12:00 PM)
- Workday #2: Sunday, Mar. 3 (9:00 AM – 12:00 PM)
- Workday #3: Saturday, Mar. 16 (9:00 AM – 12:00 PM)

This year, we are partnering with the Housing Commission. All work will take place at Housing Commission Properties.



What's next?

- Outdoor instruction and hands on practice will happen Saturday, Feb. 3 from 9:00 AM – 11:00 AM.
 - Location: Lurie Terrace Housing Commission Property, boxed in yellow.
 - 600 W. Huron St.
 - Park at West Park, boxed in red.
 - 215 Chapin St.
- Join us for the workdays!



What questions do you
have?

