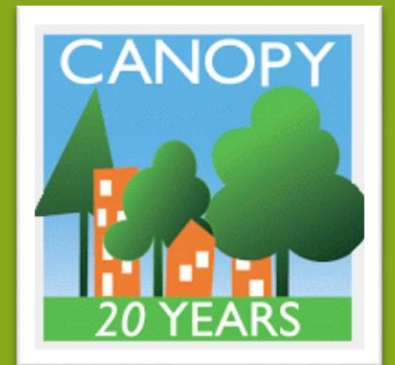
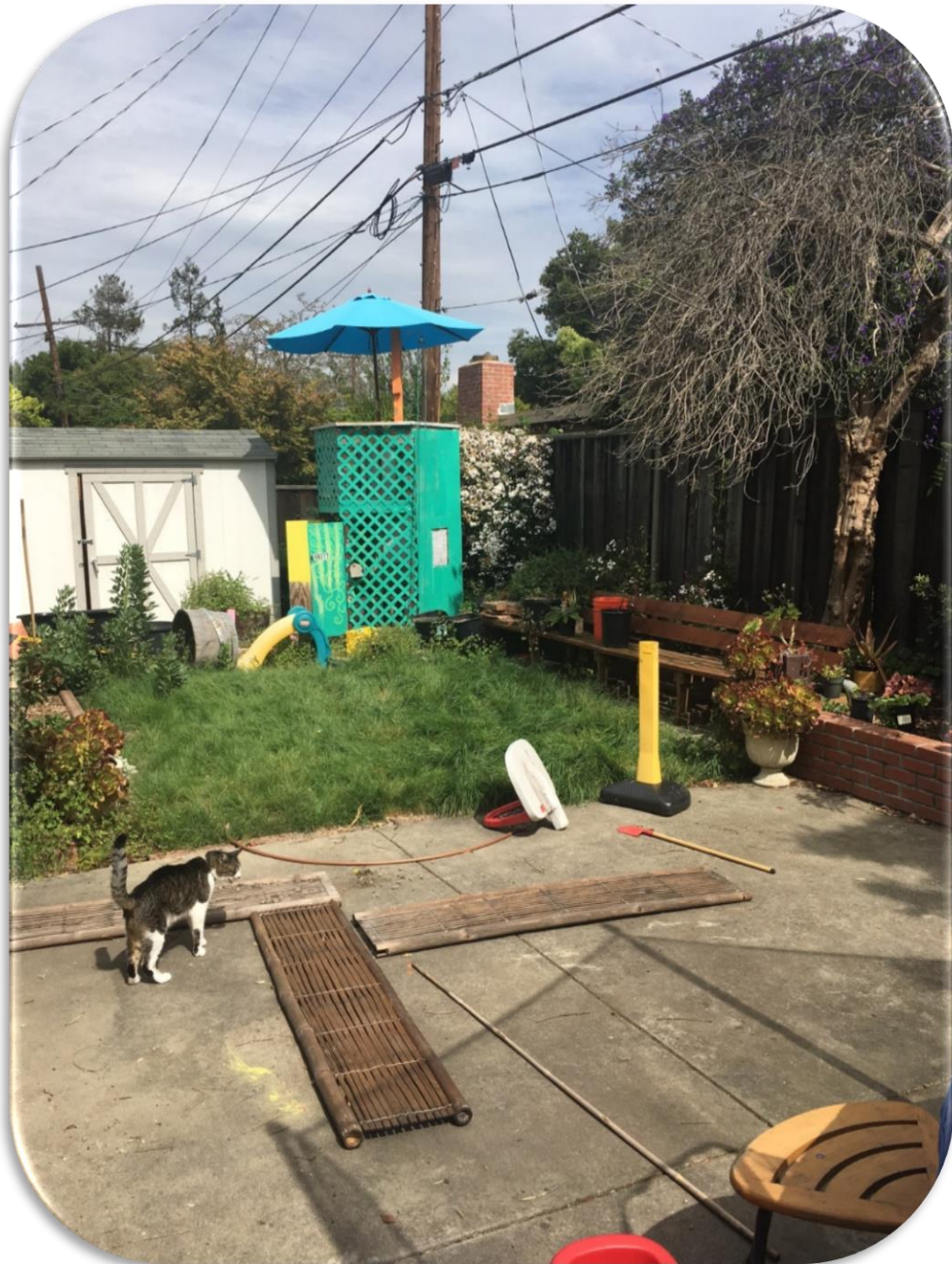




# TREES TO PLANT NOW

MICHAEL HAWKINS & ELISE WILLIS  
APRIL 6, 2017 AT GAMBLE GARDEN

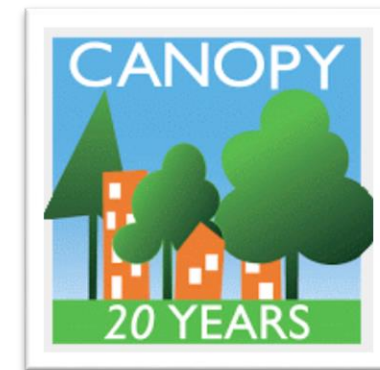




# INTRODUCTION

Canopy's mission is to bring the life-giving benefits of trees to the schools, neighborhoods, and public spaces of the San Francisco Mid-Peninsula.

- 4,300 trees planted to date
- Michael Hawkins
  - Canopy Program Director
  - Homeowner and bay area native
  - Certified Arborist
- Elise Willis
  - Canopy Community Forestry Coordinator
  - Florida native and forestry school grad
  - Certified Arborist
- Tree Hotline



# THE WHO, WHAT, WHEN, WHERE, WHY, & HOW OF TREES TO PLANT **NOW**

**Who** can help

**What** tree species

**When** to plant

**Where** to plant

**Why** plant trees now

**How** to plant & care

# TREE #1: THE PERFECT TREE



- **#1 reason to plant:** It's perfect. It has no flaws, it has pretty flowers, edible fruit, good for wildlife, lives forever, it costs no money to maintain, it never drops leaves, produces no pollen
- **Cons:** not readily stocked at nurseries
- **Pros:** Trees provide more (on average 5x more) in benefits than average maintenance costs
- Selecting the right tree for the right place will minimize conflicts and maximize benefits
- **Tips:** we recommend the non-living variety
- **Interesting fact:** The "perfect tree" doesn't exist. We made it up.

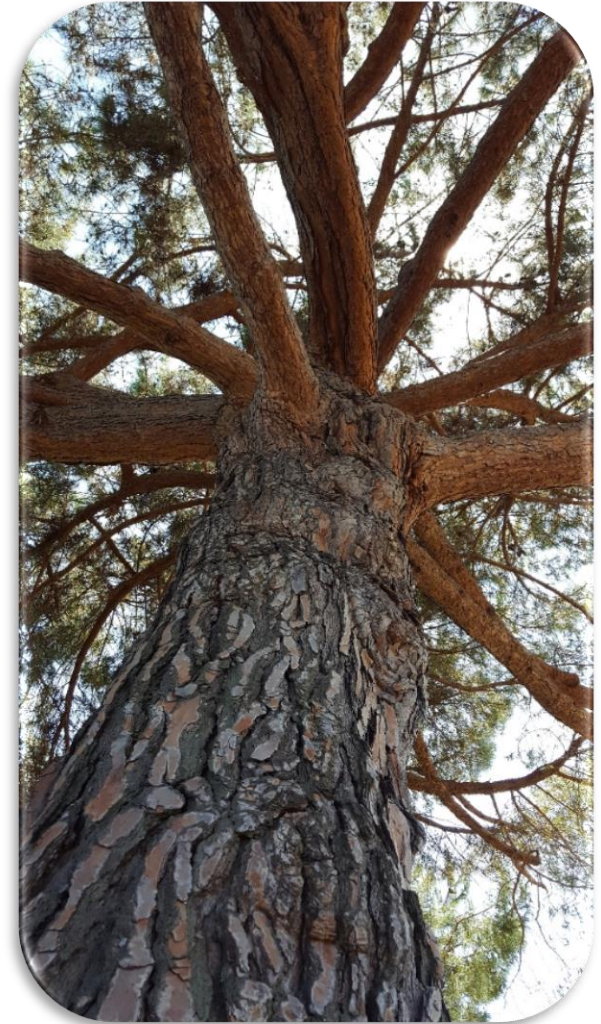


# WHAT MAKES A GOOD TREE

- Right tree, right place
- Drought tolerant
- Long lived
- Naturally good structure
- Few known pest issues
- Native or native mimicking
- Minimal maintenance
- Aesthetics

“You can gauge a country’s wealth, its real wealth, by its tree cover.”

-Richard St. Barbe Baker  
(International environmentalist)



# WHEN TO PLANT A TREE

- October to March
- The problem is trees take time to grow, but it's important to put on our forward thinking lenses
- Ideal tree size at planting



“The best time to plant a tree was 20 years ago. The second best time is now.”

-Chinese Proverb



# TREE: LONDON PLANE TREE

*Platanus acerifolia*

- Category: Large deciduous
- #1 reason to plant: grows fast & long-lived
- Interesting fact: most prevalent street tree world-wide
- Pros:
  - Adaptable - works in dry and wet sites
- Cons:
  - The dust on the undersides of the leaves
  - Fall color is brown and dead looking
- Tips: Plant 'Columbia' or go with the native *Platanus racemosa*
  - 'Yarwood' especially prevalent and crappy



# TREE: LONDON PLANE TREE

*Platanus acerifolia*



Cubberley Community Center planting spring 2016 (left) and spring 2017 (right)

# WHY PLANT TREES NOW

- Triple bottom line benefits
  - Environmental (local & global)
  - Economic (ecosystem services)
  - Psycho-social
    - Trees make us feel good
    - Stress relief
    - Lower crime rates
- Isn't it the City's job to plant trees?
  - Private property tree canopy cover matters



## Shades

- Combat urban heat island effect
- Reduce energy use
- Increase pavement longevity
- Stormwater reduction

## Cleans

- Store carbon
- Produce oxygen
- Intercept & clean rain water
- Reduce ROG (reactive organic gases)

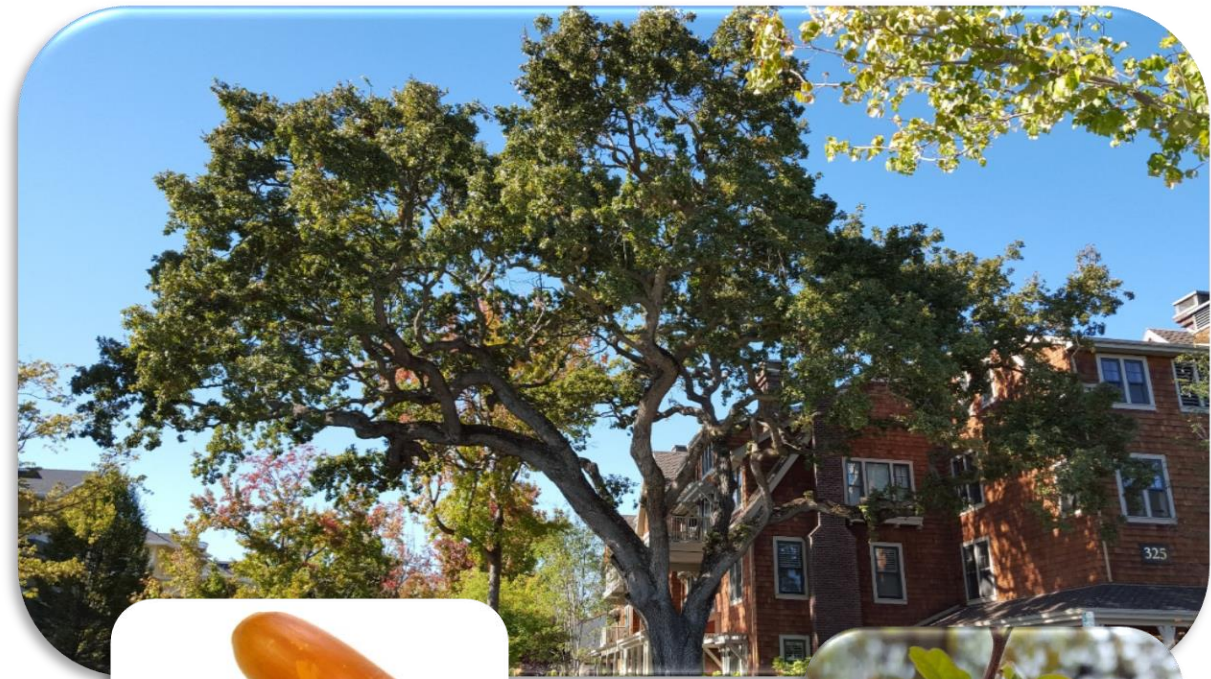
## Beautifies & Improves

- Healthier & happier human communities
- Wildlife benefits
- Noise attenuation
- Traffic calming
- Increase property values

# TREE: VALLEY OAK

## *Quercus lobata*

- Category: Very large native deciduous
- #1 reason to plant: it was here before your apricot tree
- Interesting fact: California's largest oak
- Pros:
  - So important for local ecology
  - Handsome and stately with age
- Cons:
  - Big variations in growth habit
- Tips:
  - Use locally native stock (you can ask for it, and more people should), especially to avoid powdery mildew
- Note: Longer lived than coast live oaks (up to 600 years compared to up to 250 years)



# TREE: VALLEY OAK

*Quercus lobata*



Mitchell Park Library and Community Center



Mitchell Park Library and Community Center – same tree with hawk

# WHERE TO PLANT TREES

“If you can only plant one tree, plant it in a city.”

- David Nowak

(US Forest Service Researcher)

- Right Tree, Right Place and its broader meaning
- Large trees provide maximum benefits
- Evergreens vs. Deciduous has a lot to do with location
- Other considerations with structures
  - How to get energy savings
    - Planting large deciduous on east, west, and northwest sides
  - How close is too close
- Consider screening
- Neighbors and trees

# TREE: PERSIAN IRONWOOD

*Parrotia persica*

- Category: Medium deciduous
- #1 reason to plant: It's so pretty
- Interesting fact: there is a great fully mature example at the SF Arboretum
- Pros:
  - Excellent flowers and fall color
  - Drought tolerant
- Cons:
  - Not very well tested locally
- Tips: Becoming more available at nurseries



# WHAT TREE SPECIES TO PLANT

## Tree Info

### The Benefits of Trees

Urban Trees and Climate Change

### Explore Tree Species

Canopy Tree Library – Choose the Right Tree

About the Tree Library

About the Tree Library Photos

Tree Walk Maps

### Hire an Arborist

Arborist List

### Planting Trees

### Caring for Trees

Caring for Young Trees

Pruning Young Trees

Caring for Mature Trees

Caring for Native Oak Trees

Trees and Water

Save our Water and our Trees

Watering Guidelines

Case Studies

Bugs, Diseases, Etc.

Sudden Oak Death Syndrome

SOD Research Findings

Protecting Trees from Freeze

### Tree Mistakes to Avoid

### Trees in Palo Alto

## Canopy Tree Library

Choosing the right tree is the first step toward a successful planting. Explore Canopy's preselected lists of trees as a starting point.

All Trees	Found on Tree Walks	Low Watering Needs	Locally Native Trees	Shade Providing	OK Under Power Lines	Thirsty Trees	Not Recommended
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The Mid-Peninsula low-lands were originally an oak-studded savanna punctuated by wooded riparian corridors. Over the years many species non-native to this area have been planted as cities and neighborhoods were developed. This list includes the majority of tree species found along the streets, in parks and gardens of Palo Alto. It is pretty typical of trees found in Northern California communities.

All Trees (384)	Filter list	
Common Name	Scientific Name	Family Name
California Red Fir	<i>Abies magnifica</i>	Pinaceae
Bailey Acacia	<i>Acacia baileyana</i>	Fabaceae
Silver Wattle	<i>Acacia dealbata</i>	Fabaceae
Green Wattle	<i>Acacia decurrens</i>	Fabaceae
Sydney Golden Wattle	<i>Acacia longifolia</i>	Fabaceae
Black Acacia	<i>Acacia melanoxylon</i>	Fabaceae
Trident Maple	<i>Acer buergeranum</i>	Aceraceae
Hedge Maple	<i>Acer campestre</i>	Aceraceae
Snakebark Maple	<i>Acer capillipes</i>	Aceraceae
David Maple	<i>Acer davidii</i>	Aceraceae

[Tree Library](#)

# WHAT TREE

- Function, Beauty, & other attributes to select—what's important to you?
  - Striking fall color
  - Showy flowers
  - Handsome structure and bark
  - Leaf size, shape, texture
  - What shade of green do you prefer?
  - Marcescence!
  - Density of shade
  - Fragrance
  - Sentimental reasons

# RE-OAKING

“The creation of a thousand  
forests is in one acorn.”

-Ralph Waldo Emerson  
(American poet)



Tree species compatible with oaks. Strawberry tree  
(left) and Ceanothus (right)



Valley oak

# TREE: COAST LIVE OAK

*Quercus agrifolia*

- Category: Large native evergreen
- #1 reason to plant: it was here before you were
- Interesting fact:
- Pros:
  - Super important for native ecology
- Cons:
  - big native evergreen
  - Prone to powdery mildew
  - Big variance in expected size
- Tips:
  - Don't irrigate during warm months
  - Use locally native stock
- Notes:
  - awkward as a teenager (less dense in later years)



# TREE: COAST LIVE OAK *Quercus agrifolia*



# TREE: VARIOUS OAKS

## ***Including:***

*Quercus engelmannii* (Engelmann oak)

*Quercus frainetto* (Forest green oak)

*Quercus virginiana* (southern live oak)

*Quercus shumardii* (Shumard oak)

*Quercus suber* (cork oak)

Category: various

- #1 reason to plant: Many better suited to urban areas
- Interesting fact: 600 separate species
- Pros: native mimicking trees and wildlife habitat
- Cons: various
  - Unclear exactly how well they mimic our native oaks

*Q. engelmannii*



*Q. shumardii*



# TREE: VARIOUS OAKS

*Quercus virginiana* (southern live oak)



*Quercus suber* (cork oak)



# TREE: MARINA MADRONE; STRAWBERRY TREE

*Arbutus 'Marina'*

*Arbutus unedo*

- Category: Small evergreens
- #1 reason to plant: Native mimicking
- Interesting fact: Parent tree found in the Marina District of SF
- Pros:
  - Really cool bark
  - Fruit is delicious to some
- Cons:
  - Marina a little temperamental and overused
- Tips:
  - Don't over prune
  - Marina often found as a standard, unedo as a multi



# TREE: MARINA MADRONE

*Arbutus 'Marina'*



*Arbutus 'Marina'*



# WHO CAN HELP PLANT TREES

“ If you learn about plants, you’ll be like a cook or a guitar player – and never want for work.”

- Ernie Wasson (Michael’s horticulture teacher)

- YOU!
- Different professionals involved:
  - Consulting arborists
  - Tree care companies
  - Horticulturalists
  - Gardeners
  - Designers and landscape architects
  - ...
- Canopy Arborist List

## Arborist List

The companies on Canopy’s Arborist List have one or more ISA-Certified Arborists or ASCA Registered Consulting Arborists on staff. Arborists included on this site have requested that Canopy list their services. The list is not intended to be a statement of qualification or endorsement of particular companies, but rather an easy reference for local residents beginning the process of contacting arborists for services. Canopy is not able to comprehensively assess or recommend businesses providing tree services. Contact the companies directly for more information about the services they provide. Canopy recommends assessing the ability of any service provider before hiring (see [Hire an Arborist](#)). Canopy reserves the right to remove any company from the list at any time. [Contact us](#) to get your company on the arborist list below.



Our thanks go to the Garden Club of Palo Alto for their generous support of the Canopy online Arborist List.

**Limit the arborist list by choosing from the services below to search for companies that provide *all* of the services checked.**

### Selection and Planting Services

- ☐ Tree Selection
- ☐ Tree Installation

### Pruning and Tree Care Services

- ☐ Small or Specialty Pruning
- ☐ Fruit Tree Pruning
- ☐ Large Tree Pruning
- ☐ Commercial Tree Care
- ☐ Pesticide Application

### Consulting Services

- ☐ Sick Tree Diagnosis
- ☐ Tree Assessment and Advice
- ☐ Tree Risk Assessment
- ☐ Tree Preservation Reports
- ☐ Construction Monitoring Service
- ☐ Reports for Palo Alto Planning Permits
- ☐ Assist with Palo Alto Tree Removal Permits

### Other Services

- ☐ Tree Removal
- ☐ Stump Removal
- ☐ Emergency Tree Services
- ☐ Tree Relocation
- ☐ Free Wood Chip Delivery
- ☐ Lumber Salvage

**43 companies are listed below. Click on column headers to change the sort order.**

# TREE: AVOCADO

*Persea Americana*

- Category: Medium Evergreen fruit tree
- #1 reason to plant: Dual purpose
- Pros:
  - A great investment
- Cons:
  - Frost sensitivity
- Interesting fact: You can grow it here and not many other places
- Tips:
  - Fuerte, Bacon, Jim Bacon among the best
  - A type and B type



# TREE: AVOCADO

*Persea Americana*



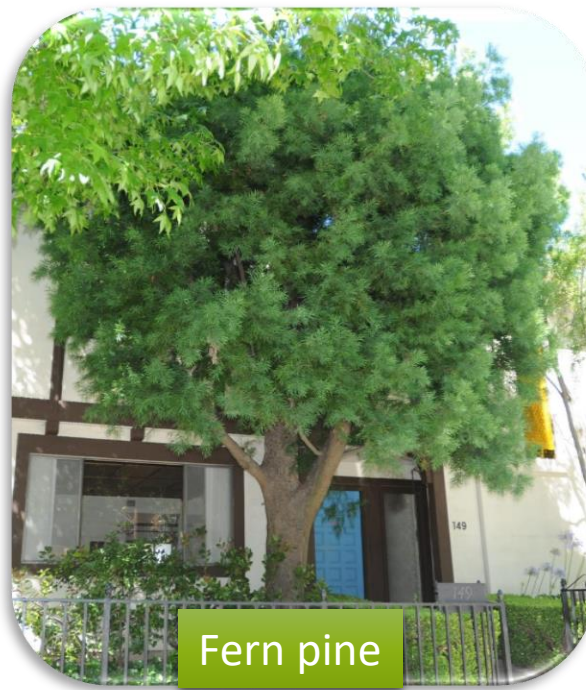
# TREE: HONORABLE MENTIONS

## Large Deciduous

- *Tilia tomentosa* – Silver linden
- *Quercus frainetto* – Forest green oak
- *Quercus shumardii* – Shumard oak
- *Ulmus parvifolia* – Chinese elm

## Large Evergreen:

- *Afrocarpus gracillior* – Fern Pine
- *Cedrus deodara* – Deodar cedar
- *Eucalyptus nicholii* – Willow-leaved pepper
- *Eucalyptus polyanthemos* – Silver-dollar gum
- *Pinus canariensis* – Canary Island pine



Fern pine



Silver linden



Deodar cedar



Silver-dollar gum

# TREE: HONORABLE MENTIONS

## Medium Deciduous



- *Diospyros kaki* 'Fuyu' & *Diospyros kaki* 'Hachiya' – Persimmon
- *Pistachia chinensis* – Chinese Pistache

## Medium Evergreen:

- *Juniperus chinensis* 'Torulosa' – Hollywood Juniper
- *Laurus nobilis* – Bay Laurel
- *Melaleuca quinquenervia* – Cajeput tree
- *Podocarpus macrophyllus* – Yew Pine
- *Olea europaea* – Olive

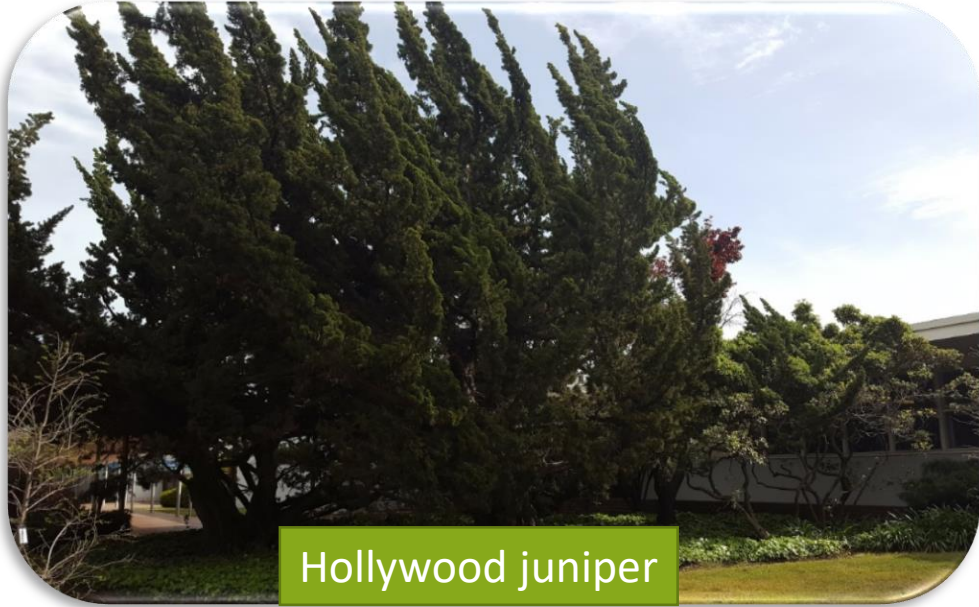


Chinese pistache



Persimmon

# TREE: HONORABLE MENTIONS



Hollywood juniper



Olive



Bay laurel

# TREE: HONORABLE MENTIONS

## Small Deciduous:

- *Acer buergerianum* – Trident Maple
- *Cercis canadensis* - Eastern redbud
- *Cercis occidentalis* – Western redbud
- *Lagerstroemia hybrids* – Crape myrtle

## Small Evergreen:

- *Eriobotrya japonica* & *deflexa* – Loquat
- *Tristaniaopsis laurina* – Water gum



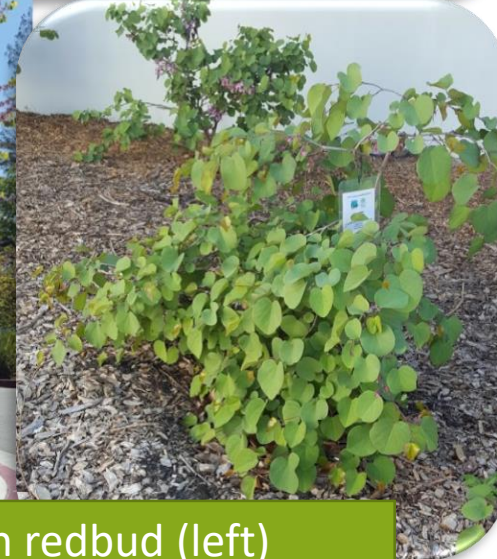
Trident maple



Crape myrtle



Eastern redbud (left)  
western redbud (right)



# HOW TO PLANT & CARE FOR TREES

“It is worth any amount of effort to be able to see your house through the arch of a tree.”

- Thomas D. Church  
(Landscape Architect and writer)

- Guidelines for specimen selection
  - Fully rooted but not overgrown – caliper
  - Signs of vigor
  - Circling roots
  - Obvious defects
  - Workable structure
  - Tidbit: Shumard oaks – check in winter to avoid marcescent leaves
- What retail nurseries tend to have
  - Have contractor purchase directly from wholesaler
  - Special order and give specifications



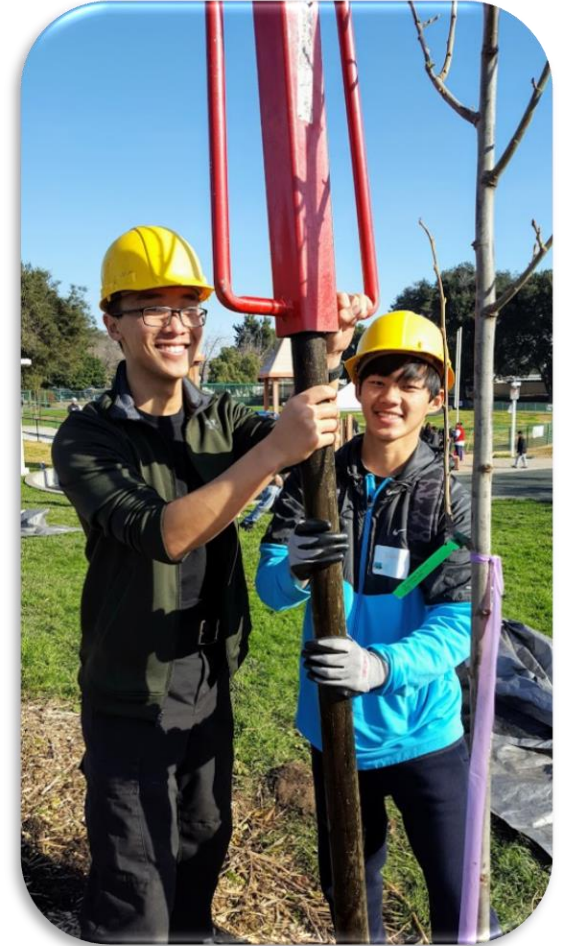
# HOW TO PLANT & CARE FOR TREES

- How to plant a tree
  - Brochure, web video, & come to a planting with Canopy
  - Work the roots (some exceptions)
  - Get planting height correct



“Acts of creation are ordinarily reserved for gods and poets. To plant a pine, one need only own a shovel.”

- Aldo Leopold  
(American author and environmentalist)



# HOW TO PLANT & CARE FOR TREES

“You don’t really know a plant until you’ve killed it 3 times.”

- Ernie Wasson

(Michael’s horticulture teacher)

- How to water a tree
  - Most people do too little too often, or not at all
  - 3s Rules...
    - Fill basin 3 times at planting
    - 3 times 3 days later
    - Once a week for 3 more weeks
    - Move towards every other week gradually
    - The following year about once a month but deeply & move basin out
  - Adjust when very hot (over 90 degrees) and with significant rain
  - Deep infrequent watering allowing soil to dry out in between
  - Coverage: right to rootball after planting, expanding as tree grows



# HOW TO PLANT & CARE FOR TREES

- How to care for a young tree
  - Structural pruning
    - Often when young to establish good structure
    - As needed after
    - What is good structure
  - Other care
    - Mulch
    - Weeding
    - Don't damage
    - Fertilizer shouldn't be needed in most cases



“No shade tree? Blame not the sun but yourself!”

– Ancient Chinese Proverb



# CONCLUSION & OUTSIDE TIME!

- Final takeaways
- Take the handouts home
- Let's inspect the trees to plant now...outside!
  - All available for purchase
- Questions?

“The wonder is that we can see these trees and not wonder more.”

– Ralph Waldo Emerson  
(American poet)



# THANK YOU!

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