



**Sunkissed**  
**Horticultural Consultants**  
*"independently owned & operated"*  
**(702) 876-3522**

June 16, 2016

Monterey H.O.A  
2897 Loveland Drive  
Las Vegas, NV. 89109

RE: Monterey Tree Assessment

Dear Mr. Harper:

Upon your request, I visited Monterey at The Las Vegas Country Club to inspect the tree population in the common areas. As we agreed, I performed a cursory visual check, stopping to more closely inspect and documented any trees that appeared to be stressed, in decline, or presented an obvious hazard. It was also requested that I offer an opinion as to whether any of the trees needed to be removed and, when applicable, provide suggestions for remedial work in an effort to save declining trees.

I would first like to point out that the majority of trees within the community are fully grown and considered to be mature. By arboriculture standards, this term refers to a tree that has reached a desired size or age for its intended use, completed natural development or growth, has developed into its usual life expectancy yet is still retaining good vigor, and/or has reached full height but still spreading its crown.

With that said, mature trees are often considered to be more hazardous with a higher degree of risk due to their size and weakening state. As an arborist, assessing mature trees deals with the probability of failure, not certainty! When inspecting a tree, one looks for items such as: insects, disease, poor structure, broken branches, tree lean, decay, stem girdling roots (SGRs), etc. that would have a pronounced impact on the health and safety of the tree. The severity and/or number of defects found in an individual tree lead to the determination as to whether or not a tree is hazardous. Therefore, one severe defect could cause a tree to be deemed unsafe. Similarly, numerous minor defects, regardless of the severity, may also cause a tree to be considered hazardous. Most important, one must also consider the target(s) and it's degree of value. Therefore, a tree may contain a fairly minor defect but be in striking distance of a high value target and again be found high risk.

The following pages contain my findings and recommendations resulting from my most recent inspection. Those findings include some general observations, descriptions of the most common problems encountered, options for remedial work, maps indicating the problematic trees, charts with corresponding tree numbers including comments on their condition and work needing to be performed, suggestions for replacement trees, and an explanation of common tree pruning practices.

If I may be of any further assistance, please do not hesitate to contact me at 702-876-3522.

Sincerely,



Russ Thompson

**Ornamental Horticulturist**

**Certified Arborist**

**-Landscape Troubleshooting**

**-Plant Problems Diagnosed**

**-Hazardous Tree Management**

Landscape trees are a joy to behold. They provide a multitude of personal and social benefits and are significant assets to property value. However, trees can also possess defects, some of which may not be visible, which can lead to a hazardous situation. Sunkissed Horticultural Consultants does not assume responsibility for the health and condition of, and / or any damage resulting from a tree (s) that we are not specifically requested to evaluate.

### **General Observations:**

The following are general observations made while inspecting the tree population at Monterey. These items are not necessarily creating a problem today, but have the potential to be problematic at some point in time.

Monterey is certainly a pleasant community that obviously takes the care of their trees and landscape plants seriously. This is a positive attribute as having our neighborhoods framed and canopied with shade trees usually delivers a cool and secure feeling. Trees also offer many other psychological, physiological, and environmental benefits to the residents. The majority of trees and surrounding landscape plants look to be in good health and are receiving average care. I stopped on several occasions to probe the soil and found moisture levels to be at or near optimal levels. That is not to say that excessive or insufficient moisture does not exist in some locations, only that moisture was adequate in those places checked. Only a few isolated occurrences of insect pests were observed and no significant diseases were found nor were any major nutritional imbalances noted.

### **1) Aging Tree Population:**

A mature tree population, such as the one here at Monterey, generally requires closer monitoring for overall health and potential hazard. As trees age, they weaken and walk a thin line as far as being able to draw on enough energy reserves to meet all their physiological requirements. An arboriculture term, "senescent tree," refers to a tree that is in the process of becoming old and in decline (see Photo # 1). Some of the trees within the Monterey community are now at that stage. ***When is a tree considered old?*** There are records of individual trees of certain species that have reached over 4,000 years of age. The trees growing in our yards, however, are not likely to come close to this. Generally, most of the tree species growing in landscapes here in the southwest have an average life span of 40 - 80 years or so, depending on species, location, and care. That life span is greatly reduced when a tree is growing along a street, in a parking lot, or shopping center, etc. as they are exposed to many hazards and assaults to tree health such as vehicular damage, pedestrian soil compaction, restricted rooting environments, lack of soil moisture and exposure to harsher wind and weather. One study estimated average street tree longevity at closer to 20 years or less, depending on locality and site conditions.

### **2) Palm Trees:**

All varieties of Palm trees within Monterey Community appear to be in good health and are not displaying any symptoms of a nutrient imbalance. It should be mentioned, however, that the Mexican Fan Palms (*Washingtonia robusta*) are in need of some cleaning / skinning. Skinning palm trees is the process of removing the old frond (leaf) petioles (boots) left behind following a pruning event (see Photo # 2). Although skinning provides no health benefit to the tree, petiole removal does make for a neater, cleaner appearance while eliminating the potential for a fire. Their removal also discourages the nesting of insects, scorpions, and rodents. Finally, dead petioles hanging from a palm tree can become dislodged and fall from the tree causing personal injury or property damage.

### **2) Fruitless Mulberry Trees:**

Other than those Fruitless Mulberry trees noted in the accompanying chart, all Mulberry trees throughout the property should be pruned utilizing the crown cleaning and crown thinning techniques. They have been improperly pruned at some point in the past and currently their crowns are extremely dense (see Photo # 3) with weakly attached sprouts. Note: Not all sprouts should be removed! They will contribute as an energy source during recovery. Those Mulberry trees noted in the following chart will require additional and/or special treatments.

### 3) Limited Soil Space:

Many of the pine and ash trees at Monterey are located in planters that are far too small given the potential mature size of these types of trees (see Photo # 4). Of course, one must realize that at the time of construction, the plant palette for Las Vegas landscapes was extremely limited. Trees needed to be planted so, those known to survive here were used regardless of their potential size.

When inadequate space is provided for a plant, it competes for root space in the soil and above ground space (sunlight) for its branches. A lack of adequate growing room can result in elongated growth, sparse foliage, poor leaf color, underdeveloped trunks, premature failure, limited root (anchorage) development, etc. The reduced root development, and subsequent poor anchorage could lead to windthrow (blow over). This will likely become more of an issue as time goes on and the trees continue to grow and their height extends above the protection of the adjacent homes and they become more exposed to the prevailing wind. These trees should be monitored on a regular basis as the potential for failure is relatively high.

Furthermore, all trees regardless of type, have the potential of causing damage to surrounding structures, utilities, and hardscapes if not given enough room to grow. When trees are planted too close to a structure or parking lot, the roots can easily interfere with the foundation or surrounding pavement. Tree limbs can also cause damage to buildings and pose other risks. These types of spacing issues have already become problematic in some of the narrow planter strips within the parking lots as well as several other planters throughout the community.

It should be understood that the size of the planter, or growing space provided, plays a very important role in determining a tree's speed of growth, overall health, and longevity. ***"The volume of healthy soil space accessible by roots is directly related to tree health and longevity."*** (Dr. Kim Coder, Univ. of Georgia, 1998). The size a tree will reach at maturity, and the space it will require, should always be considered prior to planting.

### Explanation of Primary Tree Related Issues:

**1) Codominant Leaders / Multiple Scaffold Branches:** Many of the trees within Monterey have been allowed to develop "codominant leaders" (two or more trunks) or "multiple scaffold branches". Normally, trees such as pine have an excurrent growth habit (well defined dominant trunk with smaller side branches). They are not meant to develop codominant leaders (The term codominant leaders is used to describe 2 or more main leaders (or stems) that are about the same diameter and emerge from the same location on the main trunk (see Photo # 5). As the tree grows older, the stems remain similar in size without any single one becoming dominant. Codominant stems tend to fail (break) much more often than others, especially in strong winds. Though such stems may look fine to the casual observer, they may actually be dangerous. Branches with strong U-shaped angles of attachment can usually be retained without incident. Conversely, branches with narrow, V-shaped angles of attachment often form "included (inward growing) bark" which prevents strong attachment of branches. Often, this causes a crack at the point below where the branches meet and corrective action or complete tree removal may need to occur. At times, removing part of one of the codominant stems (subordination pruning) can reduce its growth enough to allow the other stem to become dominant. The entire branch may be removed, if it is less than 25% of the total canopy or it

may be cut back over several years by removing 1/3 of the length each time. (This type of pruning can create other issues with tree stability and can only be used in some situations.)

Unlike pine trees, Ash and Mulberry trees tend to have decurrent growth which have a rounder form with numerous lateral branches. However, those lateral branches should not be allowed to develop lower than 20 foot up the trunk and their number should be limited. Numerous lateral branches emerging from a single point on the trunk tend to become codominant (V crotches) and weakly attached.

Note: Excurrent and Decurrent growth habit is something that should be addressed/corrected at the time of planting or the early stage of a trees life. Correction at a later point in time is not always possible.

**NOT all trees with codominant branches are hazardous.** Each tree is evaluated closely and then a determination for the best management approach is recommended based upon the presence of cracks, decay, and/or lean.

#### **Types of remedial work for codominant leaders:**

- Removal - When trees are determined to be structurally unsafe, diseased, in severe decline, or a nuisance and remedial work is not feasible, complete removal may be the best or only option.

-Monitor - We cannot always foresee how or when a tree will develop or fail. The presence of defects should, however, serve as notice for us to pay attention. In many cases, monitoring the tree for changes in health, lean, or percentage of live tissue is the only prescription.

- Subordinate Prune - Pruning of maturing trees with codominant stems is often referred to as subordinate pruning, where secondary trunks with weak branch unions are subordinated to a dominate trunk. To avoid removing too much foliage/live wood in one season, subordinate pruning generally requires work over a period of years. During each pruning event, no more than one third of the branch should be removed. This provides enough live tissue to prevent decay from moving down through the branch too quickly. Over a period of several years, a branch collar will form on the subordinated branch creating the protection zone. After the branch collar is formed the limb can be removed in it's entirety with a significantly reduced risk for providing an entrance for decay organisms into the remaining branch and trunk of the tree.

Note: Pruning of large diameter branches (+ 4" ) is not always feasible with regard to overall tree health. Subordination pruning should be limited to situations where a true benefit will be recognized.

- Install Hardware (cable or brace) are techniques that stabilize weak branch crotches and limbs in order to reduce the risk of limb, leader, and whole tree failures. Steel cables or bracing rods can be used when pruning alone cannot reduce the risk of failures to reasonable levels.

Note: the use of hardware such as cables and steel rods that can improve tree structure should be used cautiously and be limited to situations such as historic or specimen trees or used in places where public access is limited. Cabling and bracing can increase tree longevity and provide a safer tree, however, liability is dramatically increased.

## **2) Poor Tree Structure:**

Poor structure (architecture) is a growth pattern that indicates weakness or structural imbalance. Trees with strange shapes, a lean, or excessive end weight are interesting to look at, but may be structurally defective. Poor structure often arises after many years of damage from storms, unusual growing conditions, improper pruning, topping, and other damage (see Photo # 6). Flush cuts, acute branch angles, too many branches arising from a single location on the stem, co-dominant stems, and included bark will cause problems for trees later in life. In other cases, poor tree structure is the tree's response to past changes or events. Trees combining poor structure with other defects have a very high failure potential.

**Remedial Work for Poor Structure:** The proper pruning technique and approach to correct poor structure is determined on a case by case basis and would be too lengthy to explain in this report. This author recommends that you hire reputable, experienced, and well qualified tree trimming companies. In most cases they will utilize proper pruning techniques to maintain good structure or correct defects within the tree.

**3) Leaning Trees:** Trees do not necessarily grow straight up. Leaning or lopsided trees present more of a hazard than those growing vertically, but if a tree has always grown off center, it generally is not a high risk. However, trees with a significant lean or when a lean develops suddenly and results in cracked or heaving soil and/or exposed roots around the base of the tree, could be cause for concern and immediate action. Some specialists suggest that any lean greater than 15°, particularly if it is in the direction of the target, is probably cause for close assessment.

It is necessary to distinguish between two types of leans: 1) a natural lean means a tree has been leaning for much of its life. You can often see a sweep (curvature) of the stem, or maybe even a crook, where the tree corrected the lean (see Photo # 7). The upper stem is vertical, not leaning. There is no evidence of recent change, such as soil/root plate movement, cracking or stress bending of the stem. Sometimes natural leans can increase slowly over time as the weight of the stem increases. 2) an unnatural lean is due to a relatively recent change in the orientation of the stem. You may see evidence of soil/root disturbance indicating that the root system has shifted in the soil. You may see cracking in the stem as it gives way. There may even be bending of the stem going on, usually associated with decay. Trees with an unnatural lean have already begun to fail and are extremely hazardous.

### **Types of remedial work for leaning trees:**

- Removal - When trees are determined to be structurally unsafe, diseased, in severe decline, or a nuisance and remedial work is not feasible, complete removal may be the best or only option.

-Monitor - We cannot always foresee how or when a tree will develop or fail. The presence of defects should, however, serve as notice for us to pay attention. In many cases, monitoring the tree for changes in health, lean, or percentage of live tissue is the only prescription. Ideally, visual inspection should be made with each changing season.

-Corrective Pruning - Removing heavy branches on the leaning side can, at times, prevent an increase in a trees' lean. This type of pruning to remove end weight does not negate the need for continually monitoring the tree.

**4) Stem Girdling Roots (SGR):** Some trees within Monterey are noted as possibly having a Stem Girdling Root (SGR). This malady can affect tree health as any other disorder would. SGRs encircle or run tangential to a tree's stem, eventually compressing the woody and nonwoody tissues of the stem. The degree to which trees are impacted varies with severity of encirclement, growing conditions, weather, age, size, and very likely, genetics. Urban (street) trees are subjected to a continual barrage of natural and unnatural stress-conditions that deviate from optimal. SGRs add another layer of stress which can be significant.

Trees may decline and prematurely die as a result of the stresses induced by severe stem girdling roots. Or, they may appear healthy and normal until they suddenly fail during a windstorm, breaking at or near the point where girdling roots have compressed and weakened the stems.

In most cases, the only way to confirm the presence of a Stem Girdling Root is to excavate the soil from around the base of the tree to expose the root system. However, trees will often exhibit various above ground symptoms that can be used as indicators that an SGR is present. Those symptoms include: absence of a root flare at the base of the tree (see Photo # 8 ), the lower trunk may appear to be fluted, large buttress roots can be seen twisting around the base of the tree, the tree develops a lean, and/or the tree appears to be sickly, in particular it may have a thinning crown and stunted growth compared to other trees.

**Types of remedial work for an SGR:**

It depends on the severity but usually little can be done once an SGR has developed. When young trees develop an SGR, the root can often be removed. However, root removal can be extremely risky when dealing with trees that are well established. Closely monitoring the tree(s) to check for an increase in degree of lean or a decrease in health is usually all that can be done. If damage is considered to be extensive and/or causing the tree to lean excessively, tree removal may be the best option.

In the pages that follow, each tree that appeared to be overly stressed, in decline, or exhibiting an obvious hazard was given a number, then referenced on the site map and chart for easier identification. Those trees were also physically marked with an aluminum tag nailed into the trunk.

The attached maps and charts indicate trees presenting a problem. This information is, of course, subjective. A tree noted as a **“REMOVE”** should be considered a **“Moderate - High Risk.”** **Trees falling into this category should be seriously considered for removal** as they either pose a danger to people and/or property or, they have little, if any, chance of recovering from a debilitating condition.

The designation **“MONITOR or REMOVE”** does not necessarily mean that the tree is hazardous or poses an imminent threat. The suggestion for removal could be based upon the fact that the tree is already in decline with only a short part of its life remaining, it no longer holds aesthetic value, and/or it has declined to a point where it will never regain its true grandeur. If the failing / damaged tree is not posing a threat to people or property, the owner may choose to keep the tree for a period of time. However, it may possibly be saved should the owner agree to have remedial work performed. Likewise, they may find that the removal of a tree is more economically feasible than the remedial work. Of course, I would make myself available to assist them in their decision making.

Where noted as **“Monitor”** the tree should be considered a **“Low - Moderate Risk.”** Which indicates that a tree has some type of defect(s) that has the potential to worsen. **Whether or not to remove the tree could be dependent upon the amount of risk the owner is willing to assume.** Should the owner opt to keep a particular tree, I've noted possible remedial work in the **“Comments”** column of the charts. However, it is advisable to examine these trees frequently to update their condition. In order to properly monitor a tree, it should be closely examined now and periodically in the future. For example, a tree with a slight lean should be measured now for degree of lean and then again in the future to determine the amount of shift that has occurred.

All trees noted on the maps and charts have been photographed. I've included a sampling of the photos in an effort to show some of the various problems that exist. Additional photographs can and will be provided on request.

***“some trees need to be removed, simply because...”***

*I've been involved with numerous situations where attempts were made to save trees by excessive and/or numerous pruning events, cabling, bracing etc.. I'm sure the owner had the best of intentions and only wanted to save their tree. However, more often than not these attempts have been unsuccessful and the tree has been permanently disfigured and/or it now presents a hazard. From time to time even tree lovers need to come to the realization that you need to remove a tree simply because it will never recover to a point of providing its intended beauty or function.*

**Consulting Arborist Disclosure Statement**

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Photo # 1



Photo # 2



Photo # 3



Photo # 4





Photo # 5



Photo # 6



Photo # 7



Photo # 8

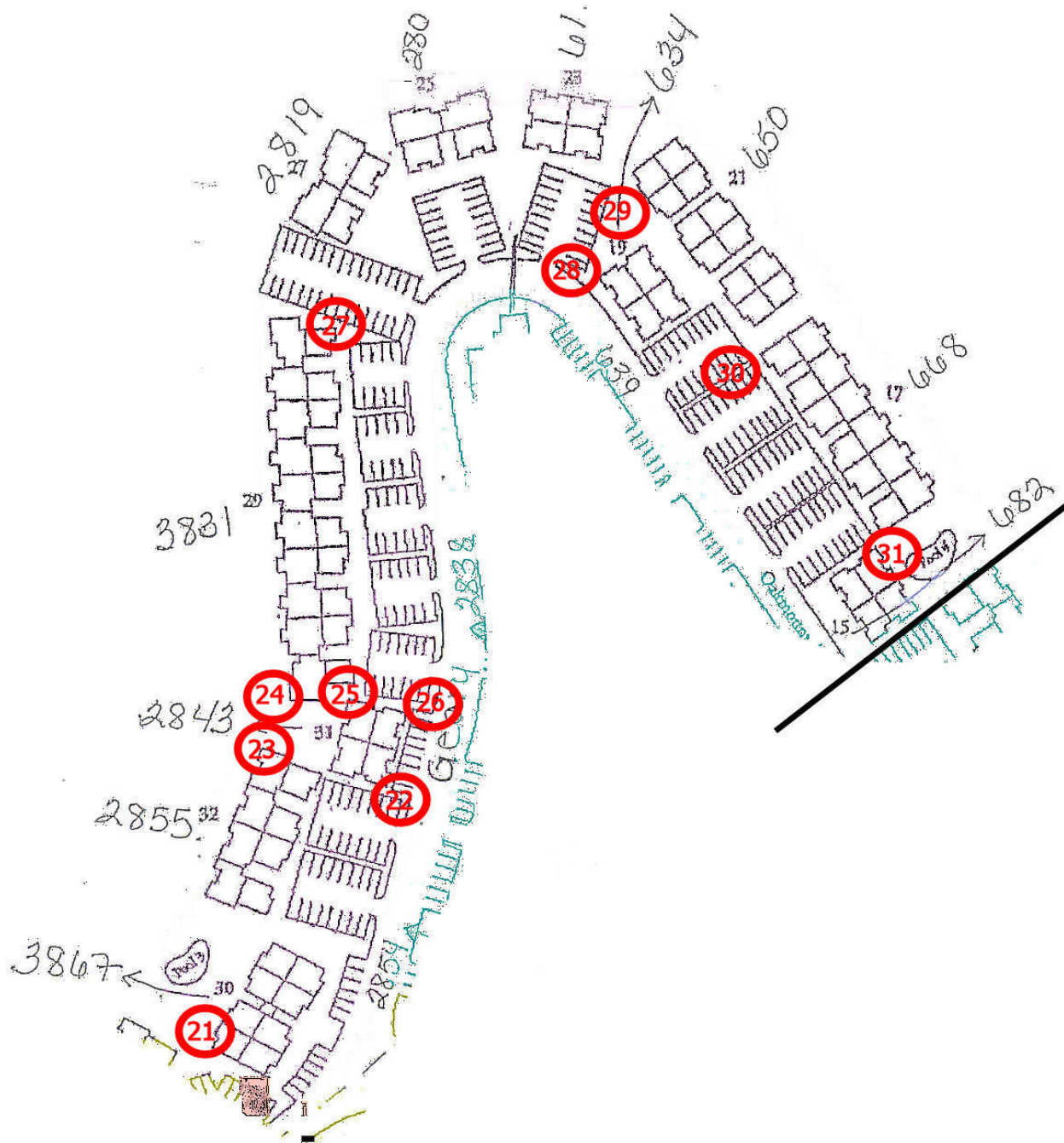
**Tree Species Legend:****AZ = Arizona Ash (*Fraxinus velutina*)****AP = Aleppo Pine (*Pinus halepensis*)****CW = Cottonwood (*Populus fremontii*)****FM = Fruitless Mulberry (*Morus alba*)****MM = Mimosa (*Albizia julibrissin*)**

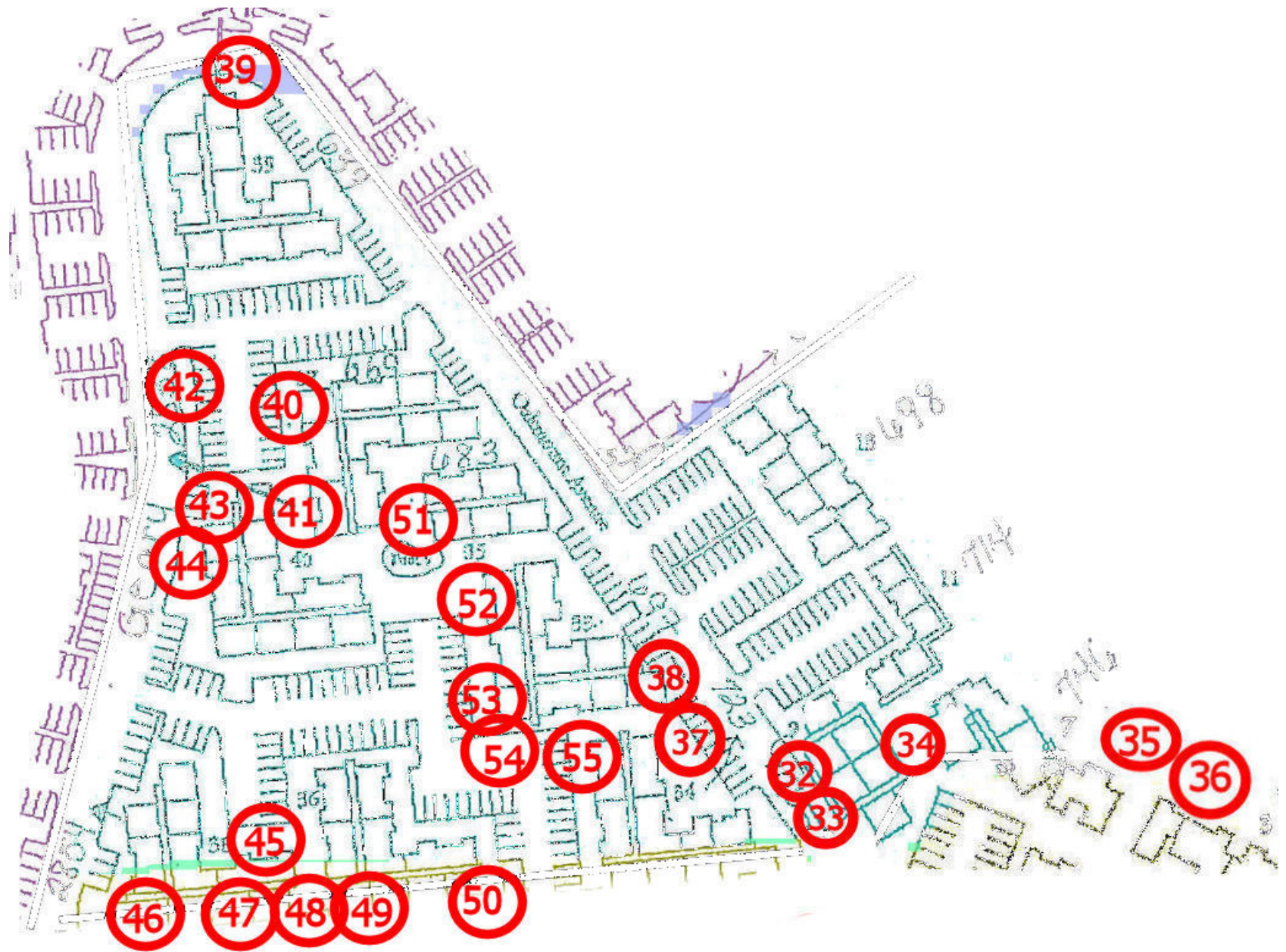
<b>Tree #</b>	<b>Tree Variety</b>	<b>Comments</b>	<b>Remedial Work</b>
1	AZ	Tree has large co-dominant stems.	Prune to improve overall structure.
2	AZ	Tree has large co-dominant stems.	Prune to improve overall structure.
3	AZ	Tree has large co-dominant stems.	Prune to improve overall structure.
4	FM	Branch congested branches & numerous suckers.	Prune to thin, remove suckers, & correct structure.
5	AZ	Dead branches exist & has poor structure.	Prune to remove deadwood & improve structure.
6	AP	Tree is stressed with co-dominant stems & SGR	REMOVE
7	AZ	Dead branches in canopy.	Prune to remove deadwood.
8	AP	Tree is senescent with very limited rooting space & SGR	Monitor closely OR REMOVE
9	AP	Tree is senescent with very limited rooting space & SGR	Monitor closely OR REMOVE
10	AZ	Tree is in decline with internal decay & co-dominant stems.	REMOVE
11	AP	Tree has minor 10 +/- degree lean & is top heavy.	Monitor OR REMOVE
12	AZ	Dead branches in canopy & co-dominant stems.	Prune to remove deadwood & improve structure.
13	CW	Tree has internal & basal decay with Wetwood Disease.	REMOVE
14	AZ	Tree has co-dominant stems with excessive branch end weight.	Prune to improve overall structure.

<b>Tree #</b>	<b>Tree Variety</b>	<b>Comments</b>	<b>Remedial Work</b>
15	AZ	Tree has 10 degree lean with possible SGR	Prune to remove end weight & improve structure.
16	AZ	Tree has internal decay & Sooty Canker.	REMOVE
17	AZ	Tree has co-dominant stems & deadwood.	Prune to remove deadwood & improve structure.
18	AP	Tree has major co-dominant stems.	Prune to improve structure.
19	AZ	Tree has co-dominant stems.	Prune to improve structure.
20	AZ	Tree in decline with wounds & decay.	REMOVE
21	AZ	Tree has co-dominant stems & deadwood.	Prune to remove deadwood & improve structure.
22	MM	Past history of Borer Beetle infestation.	Monitor and re- treat as needed.
23	CW	Tree has basal & root decay & crown gall disease.	REMOVE
24	CW	Tree has basal & root decay & crown gall disease.	REMOVE
25	AP	Tree is senescent with very limited rooting space & SGR	Monitor
26	AP	Tree is senescent with very limited rooting space & SGR	Monitor
27	AP	Tree is senescent with very limited rooting space & SGR	Monitor closely OR REMOVE
28	AP	Tree is dead.	REMOVE
29	AZ	Tree has large vertical crack with internal decay.	REMOVE
30	AP	Tree is senescent and in decline with SGR	REMOVE
31	AZ	Tree has co-dominant stems with minor decay & end weight.	Prune to remove deadwood & improve structure.
32	AZ	Tree has co-dominant stems and is in decline.	Monitor or REMOVE
33	AZ	Tree has co-dominant stems and is in decline.	Monitor or REMOVE
34	AZ	Tree has co-dominant stems and is in decline.	REMOVE

<b>Tree #</b>	<b>Tree Variety</b>	<b>Comments</b>	<b>Remedial Work</b>
35	AZ	Tree has poor structure with end weight over building	Prune to improve structure & remove end weight.
36	AZ	Tree has poor structure with deadwood & decay.	REMOVE
37	AZ	Tree has poor structure & deadwood.	Prune to remove deadwood. Monitor
38	AZ	Tree in severe decline with deadwood & decay.	REMOVE
39	AP	Tree has co-dominant stems with end weight.	Prune to improve structure.
40	FM	Tree has column of decay with raised root plate.	Prune to clean & Monitor OR REMOVE
41	AP	Tree has 20 degree lean & in decline.	Monitor closely OR REMOVE
42	AP	Tree has major co-dominant stems.	Prune to improve structure.
43	FM	Tree has column of decay with raised root plate.	Prune to clean & Monitor OR REMOVE
44	AP	Tree has co-dominant stems with end weight.	Prune to improve structure.
45	FM	Tree has decay throughout with raised root plate.	REMOVE
46	AP	Tree has co-dominant stems.	Prune to improve structure & Monitor
47	AP	Tree has co-dominant stems.	Prune to improve structure & Monitor
48	AP	Tree has SGR with lean.	Prune to remove end weight & Monitor
49	AP	Tree has co-dominant stems.	Prune to improve structure & Monitor
50	FM	Tree has 45 degree lean with lean & raised root plate.	REMOVE
51	AP	Tree is senescent with very limited rooting space & SGR	REMOVE
52	AP	Tree has double co-dominant stems.	Prune to improve structure & Monitor
53	FM	Tree has decay throughout and in decline.	REMOVE
54	FM	Tree has decay throughout and in decline.	REMOVE
55	AP	Tree has minor lean with SGR.	Monitor







## **PRUNING:**

Palm trees and Fruitless Mulberry are nearly the only trees within the Monterey Community that should require pruning every year. When performed correctly, mature pine, elm, ash, and cottonwood trees, should only need to be pruned every 3 - 5 years. The exception to this would be those trees requiring pruning to improve structure, broken or dead limbs, etc.. The process to improve structure, when performed correctly, could take two or three consecutive years of pruning for restoration to be completed.

When dealing with a professional tree trimming company, it is always best to have some basic understanding of pruning practices (outlined below). You should discuss how you would like the trees to be pruned and agree upon the best approach to reach the intended goal.

### **Common Maintenance Pruning Practices**

**1. Crown Cleaning** - this practice is sometimes called "cleaning out". It includes the removal of dead, dying, diseased, crowded, or weakly attached branches, and watersprouts from a tree crown. Specifications often determine the detail of the operation by defining the diameter of the smallest branch to be included in the procedure. (ex. Crown clean branches to one inch or more in diameter, meaning no branches less than one inch shall be removed in the operation.)

Note: The size range of the parts to be removed shall be specified to define the scope of the operation. Finer detail would remove branches to ½ inch in diameter. Less detail would only remove branches to 2 inches in diameter. The scope of work will determine the cost of the operation.

**2. Crown Raising** - this practice removes the lower branches of a tree in order to provide for vertical clearance for structures, vehicles, pedestrian or traffic signs/signals, visibility and security. The preferred lowest height will be indicated in the specifications.

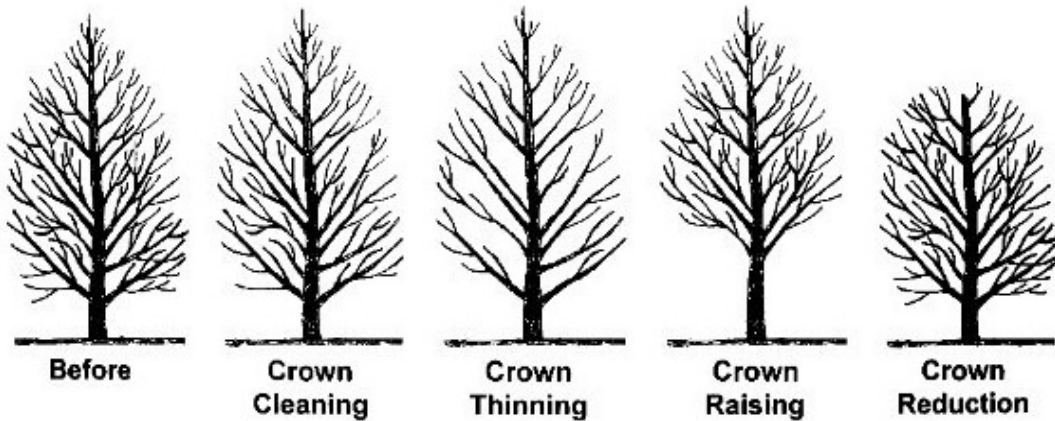
**3. Crown Thinning** - this practice consists of the selective removal of live branches to reduce the density of the canopy. The result should be an even distribution of branches throughout the crown. The percentage of live branches removed shall be specified.

**4. Crown Reduction** - this practice is suitable for trees that may have become too large for the allotted location. The preferable method for reducing the size of the crown should be through the selective removal of lateral and parallel branches, particularly from the ends of the limbs, to reduce the height and/or spread of the canopy. In severe cases heading cuts may be utilized. The size range of parts removed and the percentage of live branches removed shall be specified.

**5. Crown Restoration / Structure** - this practice is intended for trees that may have been severely pruned, incorrectly pruned, or damaged by a storm. The method of restoring a crown includes both the removal and the retention of selected limbs to bring the tree back to the normal appearance for the species. This type of pruning often requires multiple pruning events.



**6. Specialty Pruning** - this includes any one of the following: the removal of tree components that may be damaged as a result of a storm, the balancing of a tree canopy when an adjacent tree is removed, and directional pruning where selective branches are removed due to conflict with structures, streetlights, utilities and other urban components.



**CALENDAR**  
(approximate)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Palms	-	-	-	-	-	*	*	-	-	-	-	-
Pine	*	*	-	-	X	X	X	X	X	-	*	*
Ash	*	*	-	-	X	X	X	X	X	-	*	*
Elm	*	*	-	-	X	X	X	X	X	-	*	*
Cottonwood	*	*	-	-	X	X	X	X	X	-	*	*
Fruitless Mulberry	*	*	*	*	*	X	X	X	X	*	*	*

Legend:

\* = Best time to prune

x = Do not prune except to correct damage, hazards, or structural defects.

## **Suggestions for Replacement Trees:**

Should replacement trees be needed / required, numerous variables should be taken into account. Once a tree is cut down, does the remaining stump or root system permit enough room to plant another tree? What size tree, at maturity, will grow best in that location, small, medium, or large?

One should also consider the following:

Purpose of the tree (shade, screen, flower, etc.)

Mature tree size

Available root space

Water availability (rock bed with drip system or a lawn)

Nearby overhead and below ground utilities

Proximity to structures and pavement

Does it blend with the existing landscape

When careful selection is made, many trees grow more beautiful generation after generation. Hasty decisions have the potential to create decades of trouble due to dropping leaves and/or messy fruit, damage to utilities, structural damage to buildings, or bothersome thorns. So take your time and select the tree that offers the best combination of qualities you will enjoy.

### **Small - Medium**

Ornamental Pear (*Pyrus calleryana*)

Vitex (*Vitex agnus castus*)

Palo Verde (*Cercidium* x 'Desert Museum')

Chilean Mesquite (*Prosopis chilensis*)

### **Medium - Large**

Fan-Tex Ash (*Fraxinus velutina* 'Fan Tex')

Southern Live Oak (*Quercus virginiana*)

Holly Oak (*Quercus ilex*)

Evergreen Elm (*Ulmus parvifolia*)

Bottle Tree (*Brachychiton populneus*)

Chinese Pistache (*Pistacia chinensis*)

### **Large**

Aleppo Pine (*Pinus halepensis*)

Mondel Pine (*Pinus eldarica*)

Modesto Ash (*Fraxinus velutina* 'Modesto')

Arizona Sycamore (*Platanus wrightii*)