



CITY COUNCIL STAFF REPORT

DATE: OCTOBER 16, 2013 UNFINISHED BUSINESS

SUBJECT: RELOCATION OF FIGUS TREES AT DESERT FASHION PLAZA TO DESIGNATED CITY OWNED PARKS AND PROPERTIES

FROM: David H. Ready, City Manager

BY: Community & Economic Development Department

SUMMARY:

On February 6, 2013, staff approached Council for direction on the relocation of a number of the Ficus trees at Desert Fashion Plaza to certain City owned parks and properties. The Council directed staff to obtain a second opinion from a licensed arborist on the viability and chance of survival of relocating these trees. This action is to present those findings and make recommendation for the transport of the most viable trees to an alternative site.

RECOMMENDATION:

1. Receive the Arborist Report for Relocating Trees from Desert Fashion Plaza to other appropriate City-owned sites.
2. Based on the conclusions of the report, it is recommended that two trees, numbered Trees 2 and 3 in the Arborist Report be moved and transplanted.
3. Authorize the City Manager to enter into a contract with a tree moving company for the relocation of Trees 2 and 3 to an alternative City park site.

BACKGROUND:

In June, 2012, the City of Palm Springs acquired substantial portions of the Desert Fashion Plaza (DFP) property for future public use as part of the overall redevelopment plan. The proposed northerly extension of Belardo Road through the development will necessitate moving or alternatively cutting down three large Ficus Trees which are located along the north side of Tahquitz, adjacent to the Desert Fashion Plaza surface parking lot. In addition, there were a number of trees located in the interior of the property that were considered for moving as well. On February 6, 2013, staff brought this item to Council for consideration, and it was requested that a formal study by a licensed arborist be carried out with a report documenting the viability of moving these trees and their chance of survival.

Over the course of the past six months, most of the interior site trees have been removed concurrently with the building demolition. For the remaining trees, Bryan Stone, of Arborstone, was retained to provide his services as a licensed arborist to study the area and prepare a formal report on the health of the existing trees, the viability of moving them, the procedure for moving them and the success and survivability of these trees during a transplant. The report is attached as Exhibit "A". The report analyzes three trees in the path of the Belardo Road extension. From east to west they are labeled Trees 1, 2, and 3. The report concludes that Trees 2 and 3 would be the best candidates for transplant with a 70 to 75% chance of survival. Tree 1 has a 50% chance of survival.

In order to move the trees, it will be necessary to reduce the tree crown, removing 20% of the height and 15% of the width and this would need to occur as soon as possible, preferably in the month of October. The arborist also recommends that the trees be transplanted in early to mid March, the beginning of the growing period. This ensures that the weather is not extreme during and following the transplant. The trees can be transplanted either by boxing or tarping around the roots. After planting the trees, they must be guyed with at least 5 guy wires and the wiring should be checked monthly to ensure stability. The guying will need to remain in place for up to 5 years. The tree will need to be watered regularly for the first 8 months to a year.

Based on the conclusions of the Arborist's Study, Trees 2 and 3 are recommended for transplant, while Tree 1 is not recommended for further consideration since it only has a 50% chance of survival.

Frances Stevens Park was initially contemplated as a good candidate site for transporting these large trees, since there are no apparent physical barriers and the site is less than a mile away. However, this park is highly visible in the downtown and since the trees will initially suffer from the shock of the move and lose much of the foliage while adjusting to the new location, it may not be desirable to place these trees in such a highly visible place. Victoria Park was also considered, but it was noted that there are a few low telephone wire crossings along the transport route that would likely obstruct the path of travel. Ruth Hardy Park appears to be the most feasible site because there are no apparent overhead wire obstructions along the path to the park and there are many inconspicuous areas within the park where these trees could be planted.

The demolition schedule has reduced the number of available trees to the three that are the subject of this report. The remaining trees, located at the back of the Plaza near Museum Drive, were destroyed in the first phase of demolition. The timing for the relocation of Trees 2 and 3 is very tight. The crown reductions would have to take place almost immediately, but the actual relocation would be optimal in early to mid March which may coincide with the second demolition phase. Alternatively, if the trees were moved shortly after the crown reduction, there is the chance of early frost jeopardizing

the survival of the trees. Ideally, the suggested schedule should be followed as closely as possible to maintain a 70% to 75% chance of survival.

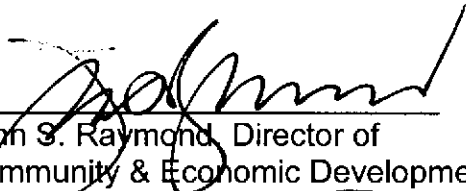
The crown reduction activities could be carried out by the City's current landscaping contractor, while the relocation activities would be bid under the City's Procurement Ordinance. Based on the estimated contract price, under \$25,000, the City Manager may authorize the contract. Given the time constraints, it is recommended that the project be informally bid, by requesting bids from three licensed tree moving contractors with guidance from Arborstone on those firms most qualified to do the work and selection based on the lowest qualified bidder.

The other consideration is the need for guy wires around the trees to remain in place for up to five years while the roots establish themselves. There will be added maintenance costs for installing and keeping irrigation in place over the eight months following the transplant and also the ongoing monitoring of the guyed trees and ultimate removal of guy wires. Due to these considerations, it is recommended that the City's Parks Maintenance Supervisor provide input on the process and advise on the ultimate location within the park where these trees will be transplanted.

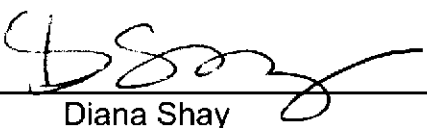
FISCAL IMPACT:

The estimated cost for the relocation is \$17,000. Additionally, the City will incur other internal costs for street closures, pilot cars, signage, barricades, etc. during the relocation process. Possible sources of funding include Measure J's allocation of additional funds for site issues at the Fashion Plaza, or the Office of Sustainability.

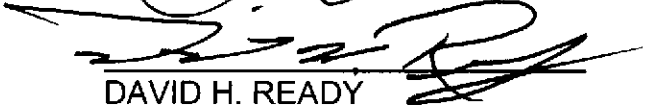
Recently, the City of Palm Springs was awarded a planning grant valued at approximately \$80,000 in planning services from Southern California Association of Governments to begin an Urban Forestry Initiative project. As part of this program the Office of Sustainability will seek to not only inventory existing trees but also add to the canopy to increase shade, offset carbon and provide aesthetic improvement. The funding of tree relocation for the Fashion Plaza redevelopment complements this initiative. The Office of Sustainability has been approached to provide funding in the amount of \$17,000 for this project and those monies are available in account #138-1270-42691 upon support from the Sustainability Commission who will provide input on October 15, 2013 at their regular meeting.



John S. Raymond, Director of
Community & Economic Development



Diana Shay
Redevelopment Coordinator



DAVID H. READY
City Manager

Attachments:

1. Arborist Report

ArborStone
Bryan Stone
Certified Arborist WE-9116a

City of Palm Springs
Corner of S. Belardo and W. Tahquitz (North Parkway)
Arboricultural Report 09-19-2013

Scope of Work-

Contacted by Diana Shay with the City of Palm Springs to assess three *Ficus sp.* trees. The assessment is to help determine the possibility of both success and survivability of these three trees during a transplant. The hope is to extract these trees before construction starts in this location. The site is to be demolished as S. Belardo will continue through the now mall parking lot. Trees will be named 1,2 and 3 moving East to West as they will be discussed as a group and individually in the report. This is a formal report and in no way takes precedence over the decisions of the City of Palm Springs or its affiliates.



City of Palm Springs
Corner of Tahquitz and S. Belardo

Ficus trees to be transplanted



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Observations-

Trees are located in Palm Springs, Ca on the North parkway of S. Belardo and Tahquitz. Looking at the trees first glance they look relatively healthy standing approximately 45-50 feet tall. Looking into the canopy of the trees there seem to be some compartmentalization issues with some of the older cuts. They look to be 18-23 years old. Watered by spray irrigation a majority of the roots are likely within the first 8-15 inches of soil. The buttresses (visible structure roots) have grown flat up against the wall which will leave very little space to dig without harming these roots as more fibrous feeder roots are likely beneath the buttresses as well.

All three Ficus trees have multiple co-dominate stems which some are looking heavy especially in tree 1. Dead branches are noticeable on tree 1 possibly due to breakage during high winds. All three trees have no visible crossing branches which can lead to failure. There are some main stems that have grown close to each other which can cause included bark.

Analysis or Testing-

Performed a mallet test at the base and lower stems of all three trees. A mallet test is used to detect hollow cavities within the tree that could be either decay, dead wood or a deformity. This helps with knowing where the weak points are in the tree without drilling or cutting into the tree.

Tree 2 has one main stem that is hollow possibly due to failure of compartmentalization of a previous cut branch. This branch is located on the Northeast side of the tree.

On tree 3, two stems were located that appear to be hollow. One is from reaction wood growing around a diseased stem. The other is from a once connected branch not healing properly. Both of these are located on the East side of the tree.

All of these have been marked on the tree with black tape.

Due to the location so close to the mountains a majority of the soil is Carsitas, which is the youngest of our soils in the Coachella Valley. It is made up of broken down parent rock material which without the necessary fines tends to leach nitrogen. There is also an indication that some of this soil was trucked in and resembles more of a Myoma characteristic, typically refined blow sand. These soils can hold approximately 1" of water per square foot of soil. This also helps us determine how far the roots might have possibly grown vertically downward. It is common that 90% of feeder roots tend to grow within the first 8 inches of soil, in this case we are more likely to find feeder roots as far down as 1.5 feet

To measure the tree height are techniques derived from the Colorado Tree Coalition. Height of tree 1 is 55 feet, tree 2 is 51 feet and tree 3 is 48 feet.

Conclusion-

Trees 2 and 3 would be the best likely candidates for transplant. This decision was based on the amount of visible roots around the trees and how far they are away from the tree, weight of the trees, height of the trees and health of the trees. Trees 2 and 3 will have a 70-75% chance of survival if recommendations are followed. Tree 1 will have at best a 50% chance of survival due to the amount of roots to be removed as some roots are located as far as 21 feet from the base of the tree. The number one concern for all 3 trees is the now North side. The roots over the last 2 decades have only had a limited amount of room to grow, when planted in a lawn or turf setting the chances of the tree failing due to root structural issue will be high. Strong bracing or cabling will be recommended.

Boxing or using a tarp are the main 2 ways to transplant a tree of this size. There is a 3rd method of transplanting which is bare root. One area that is known for bare root transplanting is Disneyland. They do so at night as to not kill beneficial micro organisms from polarization. There is one record of transplanting a tree 3 times in Disneyland in the 60's and the tree had survived. This method is risky, but reduces weight dramatically and keeps more roots intact. This is not a recommendation, it is just a fact.

Recommendations-

Crown reduction: reduce crown within ANSI A300 standards removing approximately 20% of height and 15% on width. Crown reduction must be performed in mid-October, this will allow compartmentalization of any large cuts before a possible frost in late January - February.

Growth regulators: Spray the trees to be transplanted with growth regulators lightly on outside leaves only. This can be done up to 2 weeks prior to transplanting.

Dig Alert: Call dig alert a week before transplanting to check for any utilities below root zone.

March transplant: Transplant in beginning to mid March, this is the beginning of the growing period. It will give the trees the appropriate amount of time to reduce any extreme shock before the weather hits high temperatures.

Digging of roots: dig a majority of the roots by hand, not digging along the North wall. We want to leave as many roots as possible intact on the North side of the tree as this will be the weakest area of the tree.

Tarp or Box: To tarp or box is ultimately up to the contractor, the most important on both is North roots. If the trees are to be boxed they have to do so by possibly removing the North wall before hand.

Planting: After being planted trees must be guyed using no less than 5 guy wires, 3 of them being placed on the West side of the tree. Screw eyes no smaller than 1/2 inch (12mm) should be attached directly into the tree (no less than 10 in. apart), how the cabling is attached to the ground is up to the contractor. Wiring must be checked monthly

to ensure stability. Due to the size of the roots on the now North side of the trees, guying may be necessary up to 5 years after planting. Planting now North side North.

Watering: After planting and throughout the first summer; bubblers, drip line or soaker hose should be used to water the trees slowly reducing the amount of water until the tree is dependant on turf irrigation. This should only be needed for the first 8 months to a year depending on weather.

Supporting Information-

- AG.Arizona.edu: Master Gardener Program
- Richard Harris, James Clark, Nelda Matheny. Arboriculture 3rd edition, Integrated Management of Landscape Trees, Shrubs and Vines. *Transplanting Large Plants*. pg 248-265
- Clemson.edu: Maintaining Tree/Turfgrass Associations
- Colorado Tree Coalition: How to Measure a Tree
- CVWD. Lush and Efficient Landscape Gardening in the Coachella Valley
- Forest Carbon Survey: Tree Weight Algorithms
- Standard Specifications for Transporting Materials and Methods of Sampling and Testing, American Association of State Highway and Transportation
- Street Tree Seminar, Inc.: Street Trees Recommended for Southern California 2nd Ed.

Scientific: *Ficus microcarpa nitida*

Common: Indian laurel fig

Family: Moraceae

Origin: India, Malaysia

Pronunciation: FII-cus my-crow-CAR-pa ni-TI-da

Hardiness zones

Sunset 9, 13, 16-24

USDA 9-11

Landscape Use: Dense shade tree, street tree only in sites with wide medians, large courtyards and interior malls, large containers, a prop for dummies, and of course there's the famous "The Cabo Chicken" (topiary)

Form & Character: Potentially massive evergreen trees (see these Indian laurel figs in the middle of Highway 15 in downtown Hermosillo, Sonora, Mexico) with a dense rounded canopy, spreading with age, heavy looking, formal

Growth Habit: Moderate and spreading to 50 to 80 feet. Width generally greater than height especially for mature trees.

Foliage/texture: Lustrous, glabrous oval leaves tapering to acuminate tip, leaves very persistent, trunk and branches have thin, smooth, grayish white bark with lenticels on small branches, latex producer; medium texture.

Flowers & fruits: Both small, auxiliary, inconspicuous, fruit a small yellowish green rounded nut.

Seasonal color: None

Temperature: Generally hardy outdoors in the temperature range of 25°F and to 115°F. Foliage and young branches can be injured during cold winters in Phoenix. Indian laurel fig across Phoenix experienced freeze damage in January 2007. And here is the same tree 11 months after the freeze of January 2007 in November 2007. Extreme summer temperatures (above 115°F) and intense sunlight will also damage exposed foliage on the upper canopy of trees. Trees injured by extreme Phoenix cold or heat usually recover quickly (except for the sudden freeze events of January 2007 and 2013).

Light: Full sun to full shade, avoid reflective western exposures because tree trunks are prone to sun scald injury.

Soil: Tolerant

Watering: Regular

Pruning: Elevate canopy base gradually as the tree matures. Trees propagated from cuttings need to be rigorously staked and pruned to train as standard or the 'Mexican box look'.

Propagation: Easily propagated by vegetative cutting or air layering

Disease and pests: Thrips

Additional comments: Indian laurel fig is taxonomically confusing in the horticulture industry because its scientific name has been changed so many times in the last 30 years (I remember first learning Indian laurel fig as *Ficus retusa* back in the 1970s). *F. m. nitida* 'Green Gem' has thickest, darkest leaves and is apparently resistant to thrips insects. Encourage deep rooting around paved areas because Indian laurel fig can grow an extensive matrix of surface roots. Can be maintained as a slow growing interior container plant for some time.

Remnants of figs have been found at Neolithic excavation. A fig tree (*Ficus religiosa*) called the Jaya Sri Maha Bodhi is located in Sri Lanka and said to be the oldest tree planted by human hands. Planted in 288 B.C., it is considered sacred because it's said to be a sapling from the tree under which the Buddha became enlightened. In the Philippines, there is a fig tree (*Ficus lumabao*) called the Wonder Balete that is 1,328 years old. It takes 42 people linking outstretched hands to embrace it. It looks almost magical when thousands of fireflies alight on it, and it houses lizards and bats, which use it as a protective alcove.

The International Society of Arboriculture (ISA) has served the tree care industry for more than 80 years as a scientific and educational organization. ISA was founded in 1924 when a group of 40 individuals, each engaged in a phase of tree work or research, were called together by the Connecticut Tree Protection Examining Board to discuss shade tree problems and their possible solutions. It was during this meeting that the group identified a need for gathering tree care information and for providing a means for its dissemination. The National Shade Tree Conference was founded soon after.

The National Shade Tree Conference experienced gradual growth until 1929, when the economy in the United States collapsed and membership in the young organization sank to 14 and continued to look bleak for several years. In 1936, membership experienced a spike and grew from 33 to 147. With few exceptions, steady growth has been seen every year since.

Due to its influence and membership spreading beyond the borders of the United States, the organization changed its name to the International Shade Tree Conference in 1968. Only a few years later, in 1976, in order to more accurately reflect its broadening scope, the name was again changed, this time to the International Society of Arboriculture.

ISA continues to be a dynamic medium through which arborists around the world share their experience and knowledge for the benefit of society. ISA is aligned on many fronts with other green organizations and is working hard to foster a better understanding of trees and tree care through research and the education of professionals as well as global efforts to inform tree care consumers.

Trees possess majestic beauty. They symbolize strength and endurance. Our reverence and affection for trees predates written history. But while our appreciation for trees is ageless, our knowledge required for their proper care has been more limited.

By the late 1800s, plant care had become an established and rapidly growing profession. During that same era, expanding industrialization and urbanization were adding new stresses to trees and the detrimental effects were becoming apparent.

Unfortunately, scientific understanding of plant dysfunction and reliable information about plant care were scarce.

The turn of the century saw red flags being raised by many of the more aggressive plant care people. Some began their own research efforts and some lectured to local audiences. But each of them realized it simply wasn't enough. In 1901, John Davey, founder of the Davey Tree Expert Company, wrote *The Tree Doctor*. In the book's introduction, Mr. Davey observed:

The time has come when tree planting and tree culture must be studied in connection with the physiology of plant life. If this is not done, a calamity will befall the inhabitants of these fruitful regions to an extent that no human mind can conceive.

Other plant care practitioners across North America and Europe were expressing similar sentiments.

It was not until 1924, however, that members of the Connecticut Tree Protective Association convened a meeting that would plant the seed of the organization that would ultimately revolutionize the tree care industry. It was this gathering that was to become the first of 75 annual conferences of the organization that has evolved into today's International Society of Arboriculture (ISA). The history of modern arboriculture is largely the story of the development of ISA in the 20th century. And while such a history is not exclusively that of ISA and its predecessor organizations, there is little of significance in arboriculture that is not reflected in its publications since its inception in 1924.





