



# Agenda

## **MUNICIPAL TREE BOARD**

**A Subcommittee of the PARC (Parks & Recreation Advisory Commission)**

**Conference Room at Parks & Recreation Dept., Siler Road**

**Wednesday, November 27, 2019**

**11:30 am**

1. Call to Order
2. Roll Call
3. Approval of Agenda
4. Approval of Meeting Minutes for October 23, 2019
5. Old Business and possible action
  - A. IT meeting report
  - B. Web Site design adoption
  - C. White Paper development
  - D. 2020 MTB meeting schedule
6. New Business and possible action
  - A. New board member
  - B. Christmas luncheon
7. Comments from the Board
8. Public Comment
9. Date and Time of next meeting- Wednesday, January 22, 2020 at 11:30 am
10. Adjourn

**Persons with disabilities in need of accommodations, contact the City Clerk's office at 955-6520, five (5) working days prior to meeting date.**

**RECEIVED AT THE CITY CLERK'S OFFICE**

**DATE: November 20, 2019**

**TIME: 7:44 AM**

**SUMMARY OF ACTION  
MUNICIPAL TREE BOARD  
PARKS AND RECREATION DEPARTMENT  
CONFERENCE ROOM  
WEDNESDAY, NOVEMBER 27, 2019, 11:30 AM**

<b><u>ITEM</u></b>	<b><u>ACTION</u></b>	<b><u>PAGE</u></b>
CALL TO ORDER		1
ROLL CALL	QUORUM	1
APPROVAL OF AGENDA	APPROVED	1-2
APPROVAL OF MINUTES	APPROVED	2
<b><u>OLD BUSINESS AND POSSIBLE ACTION</u></b>		
IT MEETING REPORT	INFORMATION/DISCUSSION	2-3
WEB SITE DESIGN ADOPTION	INFORMATION/DISCUSSION	3-4
WHITE PAPER DEVELOPMENT	INFORMATION/DISCUSSION	4-7
2020 MTB MEETING SCHEDULE	APPROVED	8
<b><u>NEW BUSINESS AND POSSIBLE ACTION</u></b>		
NEW BOARD MEMBER	INFORMATION/DISCUSSION	8-9
CHRISTMAS LUNCHEON	INFORMATION/DISCUSSION	9
COMMENTS FROM THE BOARD	INFORMATION/DISCUSSION	9-10
PUBLIC COMMENT	INFORMATION/DISCUSSION	10-11
NEXT MEETING	JANUARY 22, 2020	11
ADJOURN	ADJOURNED	11

**4. APPROVAL OF MINUTES  
OCTOBER 23, 2019**

Ms. Wolfe said on the top of page five it should say Richard Thompson.

Mr. Neal said on page 6 it should be Ms. Touchett.

**MOTION** A motion was made by Mr. Neal, seconded by Ms. Touchett, to approve the minutes as amended.

**VOTE** The motion passed unanimously by voice vote.

**5. OLD BUSINESS AND POSSIBLE ACTION**

**A. IT MEETING REPORT**

Mr. Pedersen reported that he, Katherine and Becky met with Josh Alicio, Steven Santistevan and Phil Pacheco in October and have our second meeting with them today at 2:00 pm. Our initial meeting was good. We discussed our hopes and dreams with them and they were receptive. The main thing was they are intending to roll out ARC Enterprise across the City, which has unlimited licenses. It is more Cloud based and the cost is \$30,000 a year for unlimited licenses. They are going to expand use of GIS across the City. We offered to help and make trees a pilot project for them. We will help them do the roll out. The deliverable we discussed was a draft, that was distributed to all of you, that Becky put together with him.

Chair O'Brien said she sent it to everyone on the Tree Board. We are meeting right after this meeting to begin the process.

Ms. Touchett said we set out goals and laid out the pilot project.

Mr. Pedersen said we will be discussing this document with them this afternoon. It will be focused on how we are doing this and how to work together. The process.

Mr. Pedersen said we would love to look at a couple of parks to have a bar chart with categories of tree health. The point is that there may be some creative stuff that may answer some questions and assist Councilors.

Ms. Touchett said she would love to know where our older trees are.

Chair O'Brien said Victor's information about where pests are located and trapped could also be integrated.

Mr. Lucero said he did a chart on that several years ago and IT may have that.

Ms. Touchett said she thinks whoever owns the data should maintain the data. Anyone can get to it, but the owner should maintain it.

Mr. Pedersen said we are trying to strongly advocate for that ability to do this from the Park's offices and distribute it across the City so capacity work can be done across the departments.

Chair O'Brien asked would it be helpful if Andrew, Richard and Victor give input to you about major things they would like to see happen.

Ms. Touchett said we are working on a pilot project.

Mr. Pedersen said he has been in contact John Munoz on this. He is the point of contact between us and IT right now.

Mr. Thompson said we have a design in the collection of data.

Ms. Touchett said we are assuming who ever sets this up will be able to do future asset classes.

Mr. Pedersen said he would love to see information as new trees go in, especially during development projects.

Mr. Neal said if this is maintained on an ongoing basis, when trees are removed and new ones planted, they would be included.

## **B. WEB SITE DESIGN ADOPTION**

Chair O'Brien said she understood this has been designed and sent to Carlos Sanchez.

Ms. Wolfe said it is live with our changes. Tracy suggested we add a book and article list and links. If you have some send them to her. She will work with the PDFs sent to her and will then hand them over to Carlos. He is a lovely man to work with.

Chair O'Brien said so the procedure is to send the information to Pam. Please copy her on everything you send to Pam.

Ms. Schruben asked do you want just books or the Urban Forest Plan and things like that.

Ms. Wolfe said look at the website and see if there is something else we need to

have there. We have a lot of those things already included with links.

Mr. Neal said he sees this as part of our education and outreach component so whatever we can put up there to education and inspire the public would be great. Also articles we can put a link to.

Mr. Neal said Richard, with that section we could also put things happening with the Parks Department that are public events.

Mr. Thompson said the Parks Department is the father of this. We could put it if it has something to do with trees. We could do that.

Ms. Varvil asked is the link to our site under the Parks site.

Ms. Wolfe said if you Google Santa Fe Municipal Tree Board it will come up.

Mr. Thompson said we are charged with making annual reports of things going on. Victor has a mandate to present a report to the Governing Body. You may want to develop an annual report for the Governing Body.

Mr. Neal said thank you to Pam and John for putting the website together.

### **C. WHITE PAPER DEVELOPMENT**

Chair O'Brien said Jacob, Tracy and Becky all worked on this.

Mr. Pedersen said last month John Munoz suggested we help him develop a white paper modeled on the median white paper to help with trees. He took a first stab at drafting it. The goal was to throw down what he would do if he could do anything he could do. He coordinated with Becky to align with what we developed on the inventory and coordinated with Katherine and Tracy for edits and that is the draft you see. Tracy has brought more input today.

Mr. Neal's draft is herewith attached to these minutes as Exhibit "1".

Chair O'Brien asked if everyone receive the comments sent from Jesse.

Everyone said they had.

Chair O'Brien said Tracy has done his own draft of Jacob's paper. That was sent out as well.

Mr. Pedersen said this a group document production. Rather than having an editing session today we can discuss the process for continued edits to the document

and general impressions as well.

Chair O'Brien said she sent out John's email about the structure of the median white paper.

Mr. Munoz said that is the preference, if possible. If not he is open to that. The important thing is to get the message and start to develop a strategy from that. That was something the Mayor and Council embraced.

Mr. Neal said he has not seen the median document.

Mr. Munoz said he will resend it to all of you. That is for messaging and social media consumption. There can be another layer behind that. It is something to educate the Councilors and other stakeholders. Take the technical part out and put it in other document. Digest it down.

Mr. Neal said that is the approach with what he sent out today. A general white paper.

Chair O'Brien said so we need to take these documents you three created and make it into what John is asking for.

Chair O'Brien said John, you talked like you wanted the information right away.

Mr. Munoz said general swag is what he wanted. This helped him to frame the conversation with the Mayor. It will be presented to the Mayor and the Council.

Chair O'Brien asked when will that be.

Mr. Munoz said give him a good solid timeline. Within a couple of months if possible.

Mr. Thompson said one of the things John brought to the Department is that the buzz is everything. Build the story and get it out there.

Mr. Munoz said he wanted to invite the Board to our employee recognition luncheon on Friday, December 6<sup>th</sup> at the Marty Sanchez Golf Course café at MRC. He will send you information. His team nominates fellow employees and partners who have been a great help to them throughout the year. The Tree Board has been nominated. You will get your award and get lunch with us on December 6<sup>th</sup> at 11:30 am.

Chair O'Brien said thank you. As to the process on the white paper what is the next step.

Mr. Pedersen said he would like to give people a chance today to give initial ideas and then talk about process.

Chair O'Brien said everyone read all the documents and send in comments. Then you three get together and come up with the format John wants

Ms. Touchett said we need to decide the largest part of the white paper first then pull out the bullet points.

Mr. Pedersen said we can do that in person working with our small group, but he doesn't want to shut everyone else out.

Chair O'Brien said send your product to her for review and then Jesse will send it out to all of you.

Mr. Neal said prior to that he would like input from all of you before we meet.

Mr. Thompson said having worked with the Director of Parks and Recreation on the Special Weeds Action Team, we started with paragraphs and objectives and added some things to that and called the Citizen Advisory Action Team together. We took the objectives and put them on a power point for the Action Team and the media. Then we took the action items and made Action Matrix and did it in a week. You have an opportunity to vote on this as a living document.

Ms. Varvil asked can we comment now and see how it works back and forth together.

Ms. Varvil said the draft from Jacob has a lot of acronyms and technical language. If it is to be public palatable it needs to be less verbal. John wants two sentence bullet points. Tracy's is more in the vein of going more simply. In general make it simpler.

Chair O'Brien said we need to develop what John asked for.

Mr. Pedersen said at our next meeting we could look at an almost final document.

Ms. Wolfe asked can we change the our meeting date for cause so we can meet before PARC.

Chair O'Brien said yes. Our next meeting could be January 10<sup>th</sup>, at 1:30 here.

**MOTION** A motion was made by Ms. Wolfe, seconded by Mr. Neal, to move the next Tree Board meeting to January 10, 2020, at 1:30 in the Parks and Recreation Conference Room.

**VOTE**      The motion passed unanimously by voice vote.

Mr. Thompson said he will get the white paper on the PARC agenda for their approval.

Ms. Wolfe said in the first version that came out the thing that struck her was that item 4, which speaks to hiring a City Forester could be integrated differently and have a higher priority because a lot of these items are things the City Forester or Urban Forester should have responsibility for. Think about that.

Mr. Thompson said this goes to the establishing document of the Tree Board that you make recommendations for the maintenance and care of trees to the City. As a practicing person he has never heard anything from this Body that would not be able to be heard and applied. He doesn't see a conflict between the recommendations and tree practices.

Ms. Wolfe said as an example, if you are working within this structure, number 8 should belong to the City Forester.

Mr. Pedersen said we can explain in the document by showing how important steps are to this person. The order is the chronology. What can they do now.

Ms. Wolfe said she thought setting it up the way Tracy did this morning is a nice way to organize it.

Mr. Pedersen said he loves so much of Tracy's draft, but part of it is confusing. When he thinks of a problem in urban forestry he doesn't think of one solution for each problem or two.

Ms. Wolfe said it seems there should be some kind of mechanism for that.

Ms. Touchett said the mechanism is a white paper and a bullet point executive summary.

Mr. Thompson said we did the white paper on medians internally.

Mr. Pedersen said the problem we are grappling with is bigger than the medians.

Mr. Pedersen said he would like to agree on everyone sending their comments to the Chair and then have them come to us.

Chair O'Brien said the deadline for comments will be next Friday, December 6th.



#### **D. 2020 MTB MEETING SCHEDULE**

Mr. Neal said in March the meeting is on a Thursday.

Chair O'Brien said it should be on Wednesday.

**MOTION** A motion was made by Ms. Touchett, seconded by Mr. Neal, to approve the 2020 meeting schedule with the correction in March.

**VOTE** The motion passed unanimously by voice vote.

#### **6. NEW BUSINESS AND POSSIBLE ACTION**

##### **A. NEW BOARD MEMBER**

Chair O'Brien said Mr. Formby has accepted an additional position at Highlands University teaching courses in addition to the current job he has so he will not be able to continue on the Tree Board. He has resigned effective December 31st. We will have a vacancy at that time. Please think of possible people for members.

Mr. Thompson said he has suggested that a tree maintenance professional would be appropriate.

Chair O'Brien said let's see who we can find. She asked John to talk a bit about how we can work with him to further our goals.

Mr. Formby said Jennifer Dann is a good resource. She is working on an Urban Forest Management Plan for Albuquerque and all urban areas of the State.

Ms. Schruben said she is working on the Stewards Program as well, which she brought up to this Board.

Mr. Formby said he can be a resource to help with some of these things and can think of ideas for a Board member. He is happy to be available to the Board for input and comment by email.

Chair O'Brien asked what is the focus with your job

Mr. Formby said one of his biggest focuses is pests. The biggest part of his job is technical assistance to land owners for pests. He is responsible for the whole State, but a lot of the calls he gets are from Santa Fe. He is doing a heat map for the City

showing needle scale so people can go to his GIS online and see where the hot spots are and if it is creeping to their property. We could link that to your website. He will have it completed this spring. Dealing with pests is the biggest part of his job. It is more with private land owners and strategies that work for different pests. A lot of people don't want to use chemicals. He will stay in touch.

Mr. Pedersen said we are monitoring the Mediterrian Pine Engraver. It was found in Las Vegas, Nevada. It could come to Las Cruces and south.

Chair O'Brien said as you have observations we would appreciate you sharing them with us. Jennifer Dann has suggested the Tree Board focus on all trees, not just public trees.

Mr. Pedersen said people who are in touch with him are concerned about their neighborhoods and may want to be in touch.

Mr. Thompson said it would require a change in your charter if you were to deal with trees other than public trees. You are a City Board focused on City trees in your charter.

Ms. Varvil said she has been trying to get lists of people who are interested in trees from the Parks Department and has not gotten them.

Chair O'Brien said it would be useful to know who those people are.

Mr. Neal said as part of educating the public, when you have reports or new techniques that work or do not work, that could be part of our website.

Mr. Formby said he does give presentations to schools and others. He is giving a presentation at Think Trees at the next conference. He will be available for assistance.

Chair O'Brien said we want to keep you in the loop.

## **B. CHRISTMAS LUNCHEON**

Chair O'Brien said she went to the Santa Fe Bar and Grill. They have a private room and a large menu. She signed the Board up for December 11<sup>th</sup>, Wednesday, at 11:30. We can change this if you want. Everyone is invited. We need to have a number of people for them. Please let us know by December 5th.

## **7. COMMENTS FROM THE BOARD**

Chair O'Brien said we did not talk about the inventory because the agenda was

too full. At the last meeting Becky announced that the Master Gardeners will spend next year inventorying the SWAN Park. Victor and Richard wanted portions of the river done and Keely said she may want to do an inventory. We will put that on the agenda for January.

Mr. Neal said having been on this Board since 2013, he is pleased that we finally seem to be turning it around and getting things done. He is really glad about that.

Ms. Touchett asked regarding Tree Plotter, we had to ask in January for that budget and she was wondering if we need to do again.

Mr. Thompson said we paid for that out of the Quality of Life Tree Fund. There will be an opportunity to align with it. Feel free to bring it up at today's meeting with IT.

Ms. Touchett said it may be that we don't use Tree Plotter next year and we use ARC collector if we can get it to help us out until it moves over to Park. She met with Phil Pacheco at IT and she said we would like to use our collector, but there was a glitch. He called last week and asked about what the problem was and she sent him everything. It will be interesting to see if the glitch is fixed. If it has, we won't need Tree Plotter.

Mr. Thompson said Tree Plotter ends on June 30<sup>th</sup>. After that you will not lose data, but cannot add data.

Ms. Touchett said if we are going to use ARC Collector we should talk about that.

## **8. PUBLIC COMMENT**

Mr. Thompson said a philanthropist came to the City and has offered to give funds to the City for tree planting. Environmental Services has been given that opportunity through Keep Santa Fe Beautiful. They have decided to buy trees and plant them in neighborhoods on a first come first serve basis. He wondered if the Tree Board was interested in recommending a species list for purchase.

Ms. Wolfe said yes.

Mr. Neal asked when do they need to know.

Mr. Thompson said Shirlene Sitton, Director of Environmental Services is doing this through Keep Santa Fe Keep Beautiful due to the anti-donation clause

Mr. Pedersen said that restriction has resulted in preventing private donations

and takes staff time in deciding where the trees go. It gets slippery quick.

Mr. Lucero handed out a draft of the Integrated Pest Management component for tree care.

The handout is herewith attached to these minutes as Exhibit "2".

Mr. Lucero said he would like to get some feedback on this from this Board.

Ms. Varvil asked is this what is already in place.

Mr. Lucero said much of it is already in place. This includes some issues he faces as the City IPM Director. He wanted to get input relevant to how he can better serve his community. It will eventually be published. He provided this to the Director in July. He is going to focus on cultural practices this year.

Chair O'Brien asked how is the City managing gophers.

Mr. Lucero said with lethal underground snap traps. Primarily they are in turf areas where games are played. We can deploy these to the areas where pocket gophers are killing fruit trees as well.

Chair O'Brien asked we can report issues with that to you.

Mr. Lucero said yes, it has been deemed a pest.

Ms. Varvil asked what about prairie dogs in Frenchy's Field.

Mr. Lucero said they are a protected species in the City of Santa Fe. We try to manage their density in play areas. Santa Fe has endemic plague and we have lost some valuable release sites because of that.

**8. NEXT MEETING  
JANUARY 10, 2020**

**9. ADJOURN**

There being no further business before the Tree Board the meeting adjourned at 1:35 pm.

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Katherine O'Brien, Chair

  
Elizabeth Martin, Stenographer

## Toward the Creation of a Sustainable Urban Forest in the City of Santa Fe

The term urban forest encompasses all the trees and green spaces in a city. In this paper we are focused on the trees growing on properties controlled by the City of Santa Fe. The benefits of trees for many aspects of urban life have been well documented in recent years. It's clear that trees are important for both the health and enjoyment of our city, and will be even more critical in the future.

Our trees are suffering from a variety of causes and we need to move now to protect them. Climate change is increasing tree stress through higher temperatures, more droughts, and new pests moving into Santa Fe. The water table that used to support trees downtown is dropping beyond their reach. We have more trees in our parks than the Parks Department staff can properly maintain, and new parks continue to be added. All of this leads to an urban forest that will continue to decline as more trees die. This paper outlines different aspects of the problem and steps to take in order to create a more sustainable urban forest.

1. Problem: People don't understand the importance of trees and why we need to put more effort into caring for our urban forest. Most people are not involved in direct care of parks and trees and tend to take them for granted.

Solution: We need to educate people about the value of Santa Fe's urban forest now and in the future. We also need to create more ways for people to participate in care of trees on City property.

2. Problem: We don't have an accurate assessment of the health, species composition, and sizes of the trees in our parks and public spaces to guide decisions concerning staffing, maintenance, future planting, and budgets.

Solution: We need an accurate inventory of trees in our parks that is useful in answering all these questions. An inventory has been on-going for a few years; it needs to be completed enough that it will answer these questions to an actionable extent.

3. Problem: We don't have a program for management of the trees in our parks that will meet the needs of the community in the future.

Solution: Establish a Tree Innovation Task Force to create an Urban Forest Management Plan.

4. Problem: Declining health of trees due to inadequate maintenance and effects of climate change, including increased pest pressures.

Solutions: (a) larger, better trained and better equipped staff,  
(b) availability of water for irrigation year-round,  
(c) removal of declining trees that require excess energy inputs to maintain,  
(d) use of updated tree selection criteria aimed at addressing these stressors.

5. Problem: Old paradigms and expectations about tree planting no longer apply.

Solutions: (a) change codes to incorporate new understanding of what trees need to remain healthy throughout their life, within the parameters of Santa Fe soils and climate,  
(b) insure that all planting plans are based on a thorough understanding of tree needs and growth characteristics,  
(c) insure that planting and maintenance are properly done through training and accountability at all levels of involvement.

Exhibit "A1"

### Steps to achieve this

1. Select materials that describe benefits of trees and distribute these through various channels, including community groups and nurseries. Develop a curriculum to teach about trees in public schools. Develop a Santa Fe "Neighborhoods" program.

Neighborhoods programs are typically partnerships between cities, non-profits, and community groups that are designed to address multiple goals, including education and outreach, community engagement, tree planting, and tree maintenance. Such a program has been successfully developed recently in Albuquerque. Common features of these programs include:

- Identification of planting opportunities in one or more specific neighborhoods or targeted areas
- Engagement with residents within those areas who share a vision for a better urban forest
- Planning out specific tree planting areas and compiling tree lists appropriate for each area.
- Providing free/subsidized trees for residents to sponsor (who water and maintain trees after they are planted)
- Training volunteers and organizing knowledgeable community leaders to support mass planting events and train tree sponsors on proper maintenance.
- Hosting fun, family-friendly, well-catered, and inspirational mass planting events designed to drastically improve the canopy of a neighborhood in a single day or weekend

2. Define the level of information needed from an inventory of parks and complete on-going inventory to that level.

### 3. Tree Innovation Task Force

The Parks Department will engage community members, developers, and landscape professionals to identify both new and proven technologies and management strategies that can be utilized in Santa Fe. This work will focus on two areas: 1) maintaining a healthy canopy of trees on all city-owned properties where they exist, and 2) identifying opportunities to leverage new development as a partner in implementing landscape designs and horticultural practices that can support healthy trees. The Task Force should also include representation from Planning, Public Works, and Transportation Departments as well as Parks. The mandate of this group should include the following:

- Identifying use opportunities for soil cells. Soil cells are modular, scalable, subgrade scaffolding that contain 90% or more void space and can thus be backfilled with high-quality soil. These systems can be designed to be compatible with stormwater management goals (serving as detention or infiltration features with appropriately located outflows), utilities (pipes, conduits, and fiber optics can be routed through the open lattice of the cells), and heavy foot or vehicle traffic (the Silva Cell can support loading up to AASHTO H-20 rating of 32,000 lbs).
- Identifying other model specifications and designs appropriate for Santa Fe's climate and environment.
- Identifying appropriate situations for the use of green infrastructure techniques such as curb cuts, bioswales, permeable pavement, etc.
- Developing a new tree ordinance
- Developing an Urban Forest Management Plan

### Urban Forest Management Plan

The best urban forest management plans (UFMPs) are implementation and transparency tools. The management systems that they describe are a result of a process that develops a common vision for how trees should be managed and by whom. They are living documents meant to adapt to changing conditions on the ground, emergent data on tree health and management practices, contracting practices and methods, and tree selection. A good management plan is based on data, incorporates a community vision,

makes management practice transparent, evaluates progress, and is adjusted regularly based on measured results. The management plan will include both guiding principles and discreet actions to be taken.

4. (a) Hire a qualified Urban Forester and enough staff to adequately care for all trees and green spaces in the City system. Enact training programs to insure a level of competence of all staff for the duties they will perform. Create specialized crews for pruning and pest/disease control. Purchase and maintain all equipment needed for crews to perform their duties properly. Increase staff and equipment as necessary to maintain new parks as they are built.

(b) Allocate responsibility for dealing with public events in the Plaza and other City controlled properties to a different department of City government, or have a crew dedicated to this in the Parks Department with enough staff for adequate care of parks without this crew.

(c) Renovate infrastructure so that irrigation water can be accessed and applied year-round. Develop programs for year-round watering in drier winters and for newly-planted trees.

(d) Evaluate declining trees annually to determine when they are no longer sustainable without excessive use of resources, considering both their connections to the community and the potential for damage as they continue to decline.

(e) Use criteria that include tolerance to heat, drought, and alkaline soil as well as resistance to known pests and diseases in future tree selection.

5. (a) Use recommendations from the Tree Innovation Task Force to revise the Land Use Code (and other codes that relate to tree planting in City-controlled spaces) to insure that trees are planted with appropriate techniques.

(b) Hire a person or team of people who are well versed in the needs of trees and their growth characteristics to review all planting plans, with the authority to require changes as needed to create a planting with appropriate trees planted in ways that will insure their success.

(c) Review the success of tree care annually in certain areas to insure that all people involved in tree care are doing a good job. Respond promptly to citizen concerns and determine if changes needed to be made in care or personnel.

#### Potential problems

Securing the funds and people necessary to finish the tree inventory to the level needed for decision making in a timely way.

Selection and management of the Tree Innovation Task Force to produce results in a timely way.

Coordination and timing of work by the Tree Innovation Task Force with the Land Use Department in the revision of City codes and with the median task force (SWAT) in their development of planting plans for medians.

Education and lobbying of City government to create buy-in for funding of all aspects of the program outlined above.

## **Integrated Pest Management Component for Tree Care**

Integrated Pest Management (IPM) is an approach that uses multiple strategies to effectively manage pests while minimizing risks to people and the environment. Cultural practices, biological control and mechanical control are some IPM strategies. Chemical control is used only when needed in combination with other control strategies. IPM uses accurate pest identification and pest monitoring to determine pest populations and their impact on hosts or sites.

The following guidelines emphasize cultural practices for managing the care of trees on City of Santa Fe Property.

### **Site Selection**

Trees require space for canopy and root development, therefore site selection is critical to ensure trees will have sufficient space to develop to their genetic potential, not interfere with structures, line of sight or utilities. Trees should be planted in areas as determined by the City of Santa Fe Horticulturist.

### **Soil**

Soil type and soil structure shall be assessed at each planting site to ensure proper root development, water holding capacity and water drainage prior to planting trees. Road base material, construction debris clay deposits and other materials that impede root development shall be removed from planting sites prior to planting trees.

### **Soil Amending**

Each site shall be assessed by trained City of Santa Fe Staff prior to planting trees to determine if soil amendments are needed to aid in soil structure, drainage and water holding capacity. Soil amendments may be either carbon based or mineral in nature.

### **Irrigation**

Tree planting sites shall have an irrigation source to provide water for trees from planting through establishment. Irrigation source may include drip, bubbler nozzles or manual watering source if irrigation infrastructure lines are not present. Water volume delivered to each planting site shall be calibrated by City of Santa Fe Staff to provide trees with adequate irrigation needs. Irrigation systems shall be modified at the time of tree planting to provide the trees with water source beyond the tree trunk to promote root zone development. Where practical, WINTER IRRIGATION shall be provided to trees with sufficient moisture during periods of drought during winter months.

### **Species Selection**

Tree species shall be selected by the City of Santa Fe Horticulturist to provide the desired effects of shade and aesthetics at each site - trees planted in open areas will be different than trees planted next to rights of way.

Only high quality nursery stock from reputable growers shall be planted on City of Santa Fe property. Multiple deciduous and evergreen tree species will be selected to ensure a diverse number of species.

### **Installation**

Trees will be installed according to best management practices and standards. Extreme care will be given to prevent deep planting and mechanical injuries that predisposes trees to pests. Trees will be

Exhibit 'a'



handled with appropriate machinery to prevent damage to roots, trunk and canopy at the time of planting.

Installers will determine the appropriate depth and width of the planting hole at each site and remove root ball coverings (burlap, plastic, wire, twine) from at least the upper 12 inches of the root ball.

Installers will inspect the root ball for damaged, diseased and circling roots and remove as needed.

Back fill to avoid soil compaction and covering the root ball resulting in planting too deep.

Water adequately to remove air pockets and settle the soil without compacting the soil.

Root stimulating fertilizers at planting may be used according to product label to aid in establishment.

### **Mulch**

Where appropriate, coarse organic mulches will be used to aid in water conservation and weed prevention. Avoid direct contact of mulch to the tree trunk.

### **Pruning and Maintenance**

Post planting maintenance including pruning for shape and structure shall be performed by competent persons. Prune dead and dying branches as needed with appropriate pruning cuts that ensure healing.

Do not remove branch collars when pruning. Do not leave branch stubs when pruning.

String trimmers will not be used to remove unwanted vegetation near the tree trunk. Mechanical damage to the cambium by string trimmer predisposes trees to decline and pests.

### **Plant Nutrient Management**

Fertilizing trees will be on a tree by tree basis and performed by trained staff to address macro and micro nutrient deficiencies.

The City of Santa Fe IPM Ordinance emphasizes the monitoring of each pest habitats to determine pest population, size, occurrence, and natural enemy population. 10-7.3 City Integrated Pest Management Policy (8).

### **Pest Monitoring**

Various methods of pest monitoring will be performed to accurately determine pest species and pest densities. Monitoring may include visual sampling and the use of traps and pheromones. If present, identify decisions and practices that could affect pest populations. Keep records of such monitoring.

### **Biological Control**

Endemic predators and parasitoids will be monitored to determine levels of biological control of tree pests. Nonnative biological control agents will be investigated on a pest specific basis to determine the availability of commercially reared predators and parasitoids for biological control of tree pests.