

position and condition of the tree resource and in what way the proposed cutbacks will affect it.

Inventory data can be used to improve program efficiency by aiding in crews dispatching, determining crew size, and developing improved work scheduling; to aid in the purchase of equipment better suited to resource needs; and can be employed to design inservice training programs.

Finally, inventory data can help develop grass roots support and a sense of pride in community trees by informing citizens that a tremendous and valuable resource exists that needs to be managed and should be preserved.

ACKNOWLEDGEMENT

This work was part of a larger report supported in part by the USDA-Forest Service Northeastern Forest Experiment Station Grant #23-773 through the Consortium for Environmental Forestry Studies.

Literature Cited

Bassett, John R. 1976. Tree inventory systems for human set-

tlements. In: J.W. Andresen, Ed., *Trees and Forests for Human Settlements*. Univ. of Toronto, pp. 2-14.

Deneke, Fredrick, 1978. *Urban forest inventory systems*. Urban Forest Inventory Workshop. Kansas State Univ. Unpublished mimeo. 5pp.

Giedraitis, John P. and J. James Kielbaso. 1982. *Municipal Tree Management*. Urban Data Service Reports, 14 (1): 13pp.

Lobel, Denise F. 1983. *Managing urban forest using forestry concepts*. *J. Arboric.* 9 (3): 75-78.

Sacksteder, C.J. and H.D. Gerhold. 1979. *A guide to urban tree inventory systems*. Penn State Univ., Sch. For. Resources Res. paper No. 443. 52pp.

Tate, Robert L. 1973. *Maintenance of the urban forest*. *Arb. News* 39 (6): 61-64.

Tate, Robert L. 1976. *Public relations in urban forestry*. *J. Arboric.* 2 (9): 170-172.

Tate, Robert L. 1981. *Guidelines for inservice training for urban tree managers*. *J. Arboric.* 7 (7): 188-190.

Ziesemer, Douglas A. 1978. *Determining needs for street tree inventories*. *J. Arboric.* 4. (9): 208-213.

*Department of Horticulture & Forestry
Rutgers University
New Brunswick, NJ 08903*

MUNICIPAL TREE CONTRACTS¹

by Erwin J. Page

Abstract. Municipal tree contracts have to be exact to make sure the contractor and the municipality agree as to what work is to be done. The specifications should be as complete as possible. Specifications should include details on purpose, costs, licenses, insurance, notification to utilities, scheduling, how to make changes, acceptance of work orders, delivery, clean-up, and anything else that is pertinent to the situation.

The purpose of a contract is to get a qualified contractor to do the work at the lowest price. If all information is placed on paper, all bidders will be bidding the same set of specifications and hopefully you will end up with a reputable bidder as the lowest bidder.

One way to make sure all bidders understand the specifications is to have a prebid meeting. The prebid meeting is to clarify any confusion that the

writer may introduce into the specifications. When you have two parties, a bidder and a municipality, discussing a subject, you could have two different views. Differences frequently can be eliminated during a prebid meeting. Making it a requirement for a contractor to attend the prebid meeting might not be legal. One year we had a low-bid contractor who was not at the prebid meeting. Legally, we could not find any way of eliminating his bid. An excuse such as being in the hospital or he didn't know about it soon enough, etc., makes it very difficult to hold this requirement against the bidder legally. Sometimes a bluff can work but not all the time.

During the prebid meeting it is wise to go step by step through each section of your specifica-

1. Presented at the annual conference of the International Society of Arboriculture in Quebec City, Canada in August 1984.

tions to make sure that the contractors hear the words. They might not comprehend the words but at least they have been introduced to them. You have read the specifications to them, you have discussed it, you have asked questions of them, and if they do not come up with questions, it is their fault. At this point, it is the bidder's responsibility to know exactly what is in the specifications. If he does not comprehend the specifications, he is the one that will suffer the loss if a contract is underbid.

I would like to go through my specifications that detail the furnishing and planting of deciduous trees, the second portion of which is the specifications for the trimming and removal of parkway trees, step by step and elaborate how I arrived with each set of conditions.

Tree Furnishing and Planting

A good way to begin a set of specifications is to detail the purpose of the specifications and especially what they shall cover. Repetition does not harm. The contractor might miss information in one section he will be able to grasp in a future section.

It is wise to mention that all costs incurred in the performance of the contract are the contractor's responsibility. It is his responsibility to furnish supervision, labor, materials, tools, and all equipment necessary to complete the job of furnishing and planting the trees in an acceptable manner.

Supervision control has to be included when you are writing a set of specifications. In Arlington Heights the line of command has the forester working under the director of public works. The forester is authorized to make changes from the original contract with the contractor. If the forester is not available, then changes can only be approved by the director of public works. Any change made in our specifications has to be by written agreement. Both parties then have a written copy of the change and there is no confusion. The contractor should have a supervisor in charge of the crew who will accept any change given by the municipality.

We have learned that there are many contractors who hire people who do not speak English. One requirement we make is that the foreman must be able to understand English and that he has the authority to accept and act upon all direc-

tives issued by the forester or the village representative. Failure of the supervisor to act upon a directive from the municipality could be considered a default of the contract. We also make the contractor responsible for all safety conditions involved on the job. It is his responsibility to post all streets if he wants to close a street or close a lane of traffic. If he is working on a state highway, he then has to follow all the state rules on placement of signs. To carry it further, we even mention that the contractor shall comply with all OSHA and federal and state safety standards. If a street has to be closed off, it is the contractor's responsibility to notify the police and fire departments. Of course, this can only be done after approval is given by the forester. We know it's common sense for all laws to be obeyed, but we mention that the contractor shall comply fully with all state and federal regulations and rules in any way of hiring, wage practices, and other conditions that are applicable to the employment of the contractor.

The utilities are very closely involved with every municipality. When it comes time to plant a tree, all utilities have to be located and we make the contractor responsible for all "locates." At one point we tried doing it ourselves, but found that we had no control over contractor's schedule. If the contractor fails to notify the utility and creates damage, it is the contractor who is responsible for any bill that the utility may send after they repair the cable, sewer, water, or whatever has been damaged.

In the next section we deal with the location and the scheduling of work. We plant trees only on the public right-of-way in our village. The locations of the planting and the quantities are not given to the contractor until 30 days prior to the planting period. We try to keep current on planting and we do not really complete information until 30 days prior to planting. Usually at the beginning of that 30-day period, when I'm in the nursery tagging the trees, the planting lists are prepared in my office. We know the preferred dates trees can be planted and specify in our contract what is the earliest and what is the latest date that will be accepted. We do most of our planting in the fall and mention that approximately 10 percent of our planting will be done in the spring. Normally, we

plant about 700 trees a year. The only planting we like to do in the spring is for accident replacements and trees in front of new homes where the monies have already been collected.

Another item in the specifications is that we are not limited to one contractor. If we can save money by splitting the contract and it's acceptable to both parties, there is no harm. This year I am using three contractors for planting trees. It is difficult to arrange scheduling and to make sure that we know where the contractors are when all are in town at the same time.

Additional items are covered in the set of specifications. We limit the working hours. Our citizens become annoyed if you waken them with the noise of a backhoe or a truck before 7:00 in the morning. Our normal working hours are from 7:00 a.m. until 6:00 p.m., and even these times vary on the weekend. We also make it the contractor's responsibility to clean up the area after he is through planting the tree. We like to see the area in a better condition after he leaves than before he arrived. We also specify that the contractor is responsible for obtaining all licenses and permits. If a permit is needed from the state, or from the license department in the municipality, it is the contractor's responsibility to get it. We make the contractor responsible for all legalities that may be involved in the execution of the contract.

The quality of trees that are purchased can be governed by many specifications. Our basic standard is the USA Standard for Nursery Stock; it is universal. The USA Standard is very descriptive as to what a plant should be. Every nurseryman understands what we say when we use specifications and make quotes using this standard. One of my personal preferences is to tag trees in northern Illinois only. It is close, convenient, and I know that the stock grown in northern Illinois is suitable for my area.

We then cover the quality of trees. We describe the appearance of the tree so that it is as perfect as possible. We mention the varieties of trees that will be used. We diversify as much as possible. We never use more than one-third of any species. From this point the description of the tree is pretty much what the individual wants. The details can vary, but it's a good idea to describe the type of

tree you want so that there is no confusion.

The specifications also cover the delivery and the planting of the tree. We specify conditions for both digging and planting a tree. Details should be more exacting than minimum standards. You can always delete but you never can add on. Always be generous with yourself so that you can back up if you have to. The holes must be sized big enough to accept the balls. We mention that there is a certain amount of pruning that should be done on a new tree. Some people believe in wrapping trees, some do not. We limit wrapping to the thin-barked trees. A guarantee is also one of our requirements. The guarantee states that the tree must be alive one year after planting. I know a few municipalities that require two-year survival on their guarantee and they don't seem to have problems getting it.

If the tree is planted properly, we then approve payment. We specify that 95 percent of the bid price is what we will give to the contractor after the tree is planted. We hold the other 5 percent as Insurance for a year to cover any problems with getting the tree replaced under the guarantee. If you know your contractor's work and trust him, give him the full figure. More often than not, you'll find that the nurseryman is as honest as you are and there is no problem when it comes to asking for replacement trees next year.

After completing the specifications, you determine the amount and species of trees that you will be using. I try to stay with trees that are doing well in my area. I do not experiment with a new tree selection in front of a home. When people have only one tree, they watch it very intently. If the tree dies, I must explain my experiment. My experiments are usually carried out on municipal properties where no homeowners are involved.

After you have described all specifications and amounts, you come to the items that cover how bids are to be submitted. If there is a purchasing department in your municipality, it is wise to contact them for input as to what and how it should be submitted. I think it is wise for us to become acquainted with each company that is bidding and make certain that each is covered by liability insurance.

Tree Trimming and Removal

The specifications for trimming and removal of parkway trees is similar to my specifications for the furnishing and planting of parkway trees. The general conditions are the same; the supervision, the protection of public property, and observance of the laws, and the working with utilities. The location and scheduling of work are different. In my area, I do not like elms trimmed before October 15 and have learned by experience that you must include a starting date in the specifications. We use November 15 as the date when a contractor is obliged to start trimming, and to be more exact, we say that for each of the next five months he must produce at least 20 percent of the annual trimming contract to comply with the contract. Naturally there are times when we can start earlier and times when we can work later. A lot depends upon the money that is available, and at other times it depends upon weather conditions. It's important to have a good understanding with your contractor; with a good contractor many problems are eliminated.

Our scheduling for the removal of trees is very general because we don't know precisely how many trees we're going to lose to disease or wind-storm. We specify that a tree should be removed within 10 days after the removal order is received. This is not always possible because a utility company may delay a contractor by not clearing utility wires. We specify that a stump should be removed within 30 days after the tree is removed.

In our general conditions, we also cover situations where subcontractors can be used. We cover the hours the contractor can work and we discuss clean-up. We like to see the areas as clean as possible so that when the homeowner returns he will be satisfied with the completed work. We also specify how debris must be handled. We do not allow burning and we make provisions in the contract that the material be disposed of properly. One item that disturbs me is the contractor on a private job who will cut elm logs to firewood size and leave them on the curb. By morning, those logs often are gone and are probably in somebody's yard ready to use the following winter. I hope we can control this situation more effectively in the future than we have in the past.

Part II of our specifications covers tree trimming. We discuss the subject of prohibited equip-

ment such as spikes, climbing irons, etc. We describe the type of pruning we desire. At the prebid meeting it helps to take the contractors into the field to show them an area that was trimmed correctly the previous year. Seeing this area probably does more than all the written details that are included in the contract. Most contractors can see what is needed and what the municipality wants.

One section describes the lifting of trees, the removal of girdling roots, and the cutting back of limbs around utility obstructions such as electric, telephone, and television cable facilities. There are many ways to describe how you want your trees trimmed. Each municipality will develop different specifications. Use your own words, or if it helps, get specifications from others, and use them as a basis. The more ideas you have to work with, the better the set of specifications of your own.

My specifications define the contractor's responsibility for notifying me of a defective or weakened tree. When a contractor trims a tree and doesn't report a weakened condition, that weakened tree could cause property damage and the municipality would be liable for claims.

Each of us has his own idea of how we should pay for the cost of trimming or removing a tree. We previously used 12-inch categories and I found out that it wasn't fair to price a 13-inch tree the same as a 23-inch tree.

Now we use a multiple of six inches which I think is more equitable. I personally do not like to pay by the inch because it is easy to get involved in measurement arguments with the contractor. One thing we wish to maintain is a good understanding with the contractor.

We use different details for tree removal. We make sure that the limbs which are removed are not going to do damage to lawns or to break the walks. We specify the size of limbs that should be roped down. When taking down an elm, we specify how to keep the spread of Dutch elm disease at a minimum. We also specify that stumps are not to be left any higher than three inches above ground level.

The measurement and the payment for tree removal is the same as for tree trimming. We measure trees within a six-inch class and pay by

the class. We include the price of the stump removal in with the cost of the tree removal. Contractors in our area have been able to average out the size and cost of removing tree stumps and do not lose money on this operation. They know what it is going to cost them to remove that stump.

Another section deals with the use of contractors on an hourly basis. We request specific prices for each piece of equipment and specific prices for each type of labor that is used. Unskilled labor, skilled labor, and foreman each have a different price class. I require from my contractor a daily record of work done. If he is trimming trees on an item basis, I require a daily time sheet on an item basis. If he is removing trees, I require the items listed on the daily time sheet. This helps when you review your records following a complaint.

One portion of our specifications is for the benefit of the contractor. We agree to pay him at least \$400 each time he is called out on an emergency. We don't want to harass him, have him do a ten-minute job, and get paid only for ten minutes work. We mention that if we call him out on overtime, we will pay his labor at one and one-half times the bid rate. If the work is on a Sunday or a holiday, then we will pay double the bid hourly rate. We do not pay overtime rates for equipment.

One variation we started this year was to initiate a five-year contract. At the end of each year, if both parties agree, the contract can be renewed at an escalated rate based on the local consumer price index. We also give the contractor the

benefit of the doubt in any unusual cost. If, for example, the price of gasoline doubles, he can submit proof to us and we will raise his price accordingly. We also assume that there is going to be a certain amount of inflation on the cost of equipment and labor and we use this clause to cover "the unusual."

We always make sure that the contractor is fully insured and that he has sufficient bonds. We pay on a monthly basis as bills are submitted. Under normal conditions it takes us two or three weeks for payouts to be processed through our finance department.

The last section of our specifications details how we can terminate the contract. It covers us against unsatisfactory workmanship, poor performance, or refusal of the contractor to accept the work that has been assigned to him.

After describing the specifications, I distribute maps of our area and try to give the contractor an idea as to what areas will be trimmed in the near future. We estimate how many trees we expect to trim and how many trees we are going to remove. This gives the contractor an idea as to the size of the contract so he can anticipate future work. We conclude with the hold harmless agreement, the trimming schedule, and the requirement of a performance bond.

*Village Forester
33 S. Arlington Heights Road
Arlington Heights, Illinois 60005*