

Transplanting: Part 1 “A Little History”

Thursday, February 19, 2009

The following article is submitted by Tim Widger of D & T Tree & Cactus of Marana, Arizona in response to inquiries from BIG JOHN Tree Transplanter Mfg., Inc.

Spading method vs. boxing method, back around 1982 I was involved in a very large Saguaro Cactus transplanting job in Tucson that was to become a famous resort and golf course. It was standard practice back then for the majority of saguaros and other protected cacti to be relocated out of the path of development, and to be used in the final landscape of the project. This practice was given the name Native Plant Salvage. Back then no one ever gave any thought to relocation of the trees or shrubs. It was assumed that they couldn't be relocated because a few people had tried to "bare root" them like we did the saguaro cactus and other cacti. Of course the trees are a whole different kind of plant and they would die, usually within 48 hours.

So we were moving right along with the saguaro salvage and one day some fellows show up on site and start hand digging around some mesquite trees. I asked them what they were doing and they explained to me that they were from California and they knew of a way to move these desert trees and it was called "tree boxing". Little did I know at that time an entire industry was being born in the Tucson area. Tree salvage became the norm and today there is a law in Arizona and it's known as the Native Plant Preservation Ordinance. It wasn't long before I realized that to stay competitive I would have to combine this tree boxing with my saguaro moving operations. So we learned this boxing method from some others in the boxing industry and we set out to box trees. We purchased lumber, nails, hammers, metal banding, trailers, and of course picks, shovels, backhoes, loaders, and rented cranes. What a nightmare. The amount of manual labor and time and materials required to transplant these trees hardly seemed worth it. We boxed trees for a lot of years and it seemed like no matter how much money came in, the same amount always went right back out to keep this logistical nightmare rolling, I never seemed to get ahead. One day a friend of mine who is a contractor called me and asked if I could do a small transplanting job on a utility joint trench area, this job was extremely small but had to be completed due to the Native Plant ordinance. There were several small cacti, a few saguaros and one Whitethorn Acacia tree. Well I couldn't see dragging out all the hardware to box one tree, but yet it had to be done to satisfy the ordinance. Meanwhile another friend of mine who was a landscape contractor had purchased a used 80" tree spade somewhere in the Kansas City area. He brought it back to Tucson to see if this could simplify this tree moving thing. I called him and asked if he could move this one small tree for me and we

scheduled a time to meet. Fifteen minutes later this tree was transplanted and I was in awe. This machine just transplanted the tree in fifteen minutes. This would have taken us four to six weeks to transplant using the box method. The four to six weeks is because in the boxing method there are two stages in the process with a minimum of four weeks in between the stages, more on the process later in the story.

I knew right then and there that the future in transplanting was by spade method. I also felt a relief like the weight of the world had been lifted off my shoulders. No more rented cranes, picks, axes, metal banding, box panels, nails, hammers, etc. I knew right then and there that my life was going to become easier, and more importantly more profitable. I purchased by first Big John Tree Spade, a used 90" spade and began using it to relocate trees on my jobs. That was 10 years ago, we don't have that old spade anymore but what we do have now is a fleet of brand new Big John Tree Spades, including a 100", 90", 80", 65" and 55" spades. The reason we are now able to keep about a million dollars worth of new spades around is that we now make a lot of money moving trees.

TRANSPLANTING PART II METHODOLOGY

Spading: In the spading method of tree transplanting 90% of the manual labor portion has been eliminated. The blades of this machine in mere minutes perform the work that would take men hours of hand digging, as far as the root systems go the spading is the least invasive method of transplanting. The spade will encapsulate 95% of the rootball of the tree; only a few lateral roots are cut below grade and cut cleanly by the blade creating less stress on the tree. The trees are then transported to their new location and planted back into the ground, in the ground is the natural environment for the rootball not trapped inside wooden panels. Spading is very fast, efficient and most importantly easier on the trees.

Boxing: Now onto the subject of boxing. The boxing method of tree transplantation is as I referred to earlier in the story a two stage process, taking up to six weeks or longer for each tree. In boxing the first step is to excavate by hand the determined rootball size in to a square, this takes several hours per tree and is very labor intensive as well as very invasive to the trees rootball. During the excavation of the rootball many roots are pruned in order to accommodate the four box panels that are to be built around the rootball, remember that because of the high cost of labor and materials for this method they use the smallest box possible to let the tree survive the process, this means lots of the root pruning to size the rootball. A quick example of this would be that most companies would put as large as an 8" caliper tree into a 48" box. To get it into a 48" box the rootball would have to be pruned and excavated to 45" to comfortably accommodate the 48" box being built around it and leaving an inch or two for

backfilling and packing. This tree would be spade transplanted using a 90" spade thus 100% larger rootball for the same tree and encapsulating 95% of the rootball meaning little or no roots being compromised. Remember this is the first of two stages. Once excavated it's time to nail the four panels together to hold them in place, next metal banding is cut to go around the panels and a banding tensioner tool pulls the metal bands tight, next is to put metal clamps on the bands to hold them in place, now it's time to "level" the box and begin backfilling, the couple of extra inches inside with clean fill.

This fill is then tamped and packed using shovel handles or metal bars. This tree is then flooded with water and/or fertilized to help it through the stress of being root pruned and boxed. The tree will then sit right there for a minimum of four weeks, usually more like six weeks to recover from stage I and to let the soil in the box start to become cohesive. The first stage is referred to as "side boxing". After four to six weeks of being watered and nursed back to health, it's time for stage II, "bottoming". In bottoming you must first build some lumber framing across the top of the box and nail it to the trunk of the tree and to the box panels. This supports the trunk of the tree to the box because now you have to "tip" the box over to one side so you can cut the tap roots of the tree to allow you to nail and band the bottom onto the box, during this process you almost always lose soil from the bottom of the rootball, meaning once all of this is done and "tip" the tree back up straight you can start cutting a hole in the side of the box to backfill dirt into the airspace left by the lost soil from the bottom of the rootball. After packing the soil it's time to nail a patch onto the side of the box. Now the tree is stressing from the cutting of the tap roots and again be watered and left in place. We are now six weeks minimum into moving the first tree and it hasn't even left the hole it was excavated in. Now it's time to start moving the trees, there are several methods to accomplish this including chains and a front end loader, cranes, forklifts, etc. By the time the tree boxer's first tree came out of the hole I have moved hundreds of trees already, and am probably two or three jobs down the road. Does the tree boxing work? Yes it does, and it was necessary before the invention of the tree spade. I personally boxed and moved ten thousand trees with this method. Would I ever consider moving them this way again? No way, not in a million years.

The bottom line here is that the spading method is faster, cheaper and above all much easier on the trees. I still see companies boxing trees to this day and I can't imagine why someone would put themselves or the trees through all the suffering when there is a much better way.

For information regarding this article or questions about boxing vs. spading, please call Tim Widger at D&T Tree and Cactus, Inc. (502)603-3355 or visit us at 8080 W. Tangerine Road, Marana, AZ 85653.