



ARBORWISE, LTD

... at the root of modern arboriculture

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Urban Foresters • Consulting Arborists • Tree Preservation Specialists • Horticultural Forensic Investigators

*Moving Trees
With the Air-Knife*



Planting a tree is a sign of hope and an “action of promise”. We plant trees for more than just beauty. Trees are planted to raise property values, to increase energy savings, and even as memorials or commemorations.

For two decades, ARBORWISE, LTD has been involved in urban forestry, tree preservation, and scientific arbor-care. We are excited that new technology has become available and we have now added it to our portfolio of services. The Air Knife opens up a new level of urban forestry management!

Often, trees are transported in a truck and planted from a growing nursery. Sometimes larger trees are transplanted using a tree-spade. The Air Knife, however, helps to move trees by using air! It is able to safely excavate soil from tree roots without causing the damage that can result from traditional tree transplantation.

The Air Knife technology was first developed by the US military to clear land mines. It uses a portable compressor and a specially engineered nozzle to convert compressed air to a supersonic jet-stream. The finely-focused stream of air pulverizes the soil and quickly blasts it away from the tree. Since tree roots, rocks, wires, and pipelines are non-porous, soil can be excavated quickly—with no impact on these structures.



The tree's roots have been halfway excavated.

As you can see in the picture to the left, this tree was growing almost directly against the owner's home, and so the root zone is extremely asymmetrical. Traditional tree-removal equipment is unable to approach near to the house. The Air Knife is ideal for a situation such as this because its precise stream of air allows the tree to be moved with no damage to the sur-



This beautiful Japanese Maple is being transplanted to the owner's new home.

rounding structure.

What are the benefits of using the Air Knife? First, any traditional dig cuts the roots of the tree involved. With less than full roots, tree survival is diminished. The Air Knife ensures a full root mass for transplant. As we blow the dirt from around the roots, the beneficial mycorrhiza (the fungi) remains attached to the root, which increases the tree's nutrient absorption from the moment it is replanted.



Here, the buttress roots have been exposed.



The bare-rooted tree is lifted from its original location...

Second, transplanting with the Air Knife gives you more flexibility. It enables us to move a tree any time the ground isn't frozen... Even when the tree is in full leaf. Moving the bare-rooted tree also creates less risk because the tree has a greater platform for stability during replanting.

Using the Air Knife allows us to control the soil quality at the site. Compacted soils are the #1 inhibitor of tree vitality. When stress is applied to the soil, air is squeezed out from between the molecules of dirt, diminishing its ability to transport water and nutrients to the tree as well as inhibiting root growth. The good news is that, with the Air Knife, we are now able to quickly aerate large areas of soil and incorporate organic matter without damaging the roots.

The Air Knife's technology is just one of many that is benefiting trees. We'll find a solution for your trees, too!



... and is transplanted into its new home!