

Tree Evaluation: The Ground around the Root Flare

In review, last issue's article covered the creation of a company Risk Evaluation plan. It is important to use the Visual Tree Assessment (VTA) inventory process for trees within striking distance of any public area.



Figure 1- Trees need roots for support

The first area to check is the "ground around the root flare", i.e. the entire area within the trees drip line (straight down from the outer most branches). This issue's article will focus on some of the irregular events to look for while performing a visual tree assessment.

Trees use their roots for support and absorption of air, nutrients and water. If roots are damaged or decayed the tree may fall, causing injury or damage. While investigating the ground around the root flare it is crucial to visualize the formation of the root system. Most people think roots grow straight and deep down into the ground, like an upside down volcano. In reality the root

system generally grows in a shallow, horizontal pattern like an upside down kitchen plate. Generally this "plate" often grows only two to three feet below the ground, therefore roots are not "as deep as the tree is tall" as is commonly thought.

It is essential to remember the "kitchen plate" image when examining the soil within the drip line of the tree. Note if the soil has moved or heaved, or if there are large cracks in the soil that may have resulted from the tree moving on a blustery day. When trees move in high winds roots often partially emerge from the soil. If roots are visible above ground it may be a sign that they have lost their anchoring ability. It may also signify that decay is killing the small fibrous roots, or perhaps the soil is too wet or sandy to support the tree.

While it is often difficult to predict which trees will stand and which trees will fall, in doing an assessment common sense must prevail in the evaluation. A telltale

warning sign is when the tree leans away from a crack in the soil. Try to determine if this lean is because the tree has shifted from its original growing habit.

Sometimes there will be a mound of soil out from the trunk when the tree has shifted because the roots below ground act like a pry bar pushing upwards; leaving what seems like a pile of dirt on the surface. Also raise a red flag if the soil underneath the tree moves on a windy day.



Figure 2- Mushrooms in the root area

Another thing to look for is the presence of mushrooms and other fungal growth within the drip line area. When

mushrooms grow directly from exposed roots they can function as nature's caution tape, warning that a tree is destined to fall. Remember, mushrooms frequent woodland environments so it is not necessary to remove every tree that harbors a morel, but when a large concentrated group of mushrooms grows where it is known that roots reside, watch out! Figure 2 shows a tree with a rotted root system. This tree has been standing for two years since this picture was taken, but it is only a matter of time until it falls.

Erosion and root disturbance can be other problems contributing to the fall of a tree. If a nearby creek has eroded soil from the root system, a tree may be able to support itself. Similar problems threaten trees that have had roots cut by various construction processes. It is important to consider whether or not the tree has enough roots to remain standing, and whether roots were cut on the windward side of the tree. Windward side roots naturally are the strongest roots as a defense against wind throw. If these roots are cut the tree may not be able to support itself.



Figure 3- Eroded Roots

Also look for broken roots, perhaps damaged by construction procedures, lawn mowers, farm implements or other natural agencies. When roots break they are vulnerable to decay in the root system, eating away at the tree's stability. The most difficult determination is how much decay is too much.

When in doubt, call an arborist for help in your evaluation!

Note on the Author

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