



May 1, 2015

Mr. Neil Rhodes
503 11th Street, SE
Washington, D.C. 20003-2831

Dear Mr. Rhodes:

This report will detail my inspection of two trees whose critical root zones will be impacted by the proposed development of 1015 and 1013 E Street, SE, Washington, D.C.

In particular, there is a large diameter American elm (*Ulmus americana*) in the back courtyard of 1011 E Street, SE, which is owned by Ms. Lindy Knapp, and a Black walnut (*Juglans nigra*) in your rear courtyard at 503 11st Street, SE. I will address each tree separately.

1011 E Street, S.E.

The tree in question at this address is an American elm with a diameter at breast height of 42 inches, or 132 inches of circumference. It is located in the right, rear corner of the courtyard, and is in good to fair condition. It is impressive in terms of its diameter and canopy spread. The canopy is perfectly symmetrical, and based upon a Google image I reviewed, it appears to provide shade to at least seven homes. There were no significant defects in the main trunk, root flares or scaffold limbs. However, there is an abundance of sprouts along the larger limbs termed “epicormic” sprouts. These are often an indication of stress. The stress may be due to the limited rooting area, or it may also be from fungal infection of either Dutch elm disease (DED) or black spot disease.

According to Ms. Knapp, she has not contracted for a fungicidal protection program in the past that would protect it from DED infection. As such, I think that she has been fortunate to avoid infection in this tree. Going forward, however, I highly recommend this annual treatment. It should be viewed as an investment in the tree’s future.

In terms of the critical root zone (CRZ), the District’s Urban Forestry Administration (UFA) assigns a circular zone around the tree that equals 1’ for every 1” of trunk diameter. That equates to a circle with a radial distance of 42 feet. It is important to note, however, that this dimension is 50% less than what is recommended in Maryland, and most other jurisdictions. In Maryland, a tree of this size would be assigned a CRZ of 1.5’ for every inch of trunk diameter. This standard equates to a radial distance of 63’ in all directions, which is more appropriate for a tree of this size, and location. Because of the aberrations in root expansion within densely developed urban environments, the roots of a large tree like this will spread great distances to find suitable areas that provide air, water and nutrients. So, to suggest that this tree’s roots are growing within a perfect circle is misleading.

There is a brick garage in close proximity to this tree on the left, and an alleyway behind. Both of these features will have impeded the spread of roots in those directions. Therefore, given that roots will travel to the site of least resistance, the majority of the roots should have spread around the garage in

Mrs. Knapp's courtyard, and into the neighboring properties on both sides. The tree is only 18' from the fence along the property slated for development. This is a short distance from a tree of this size, and age. In fact, I anticipate that this tree is 80+ years old, which represents a long period of time for root expansion.

American elm is also a very aggressively rooting tree. I pointed out where roots have surfaced in Mrs. Knapp's courtyard, and which are heading toward the neighboring property at 1013 E Street. These roots are of a large diameter in her courtyard, and I anticipate that they are still quite large when they cross the property line. So, the question becomes how much of the root system will have crossed Mrs. Knapp's courtyard, and are now in the back yard of 1013 E Street, and even into 1015 E Street?

This question is difficult to answer with any certainty. However, I can assure you from my years of observation that the roots from this tree will be found in unexpected locations. For instance, some are likely to have extended under the garage (since it sits on a slab), and are in the far rear courtyard of 1013 E Street. They are also likely to be in the back courtyard of Mrs. Knapp's neighbor to the right. They may also have found their way into cracks and small openings in the rear alleyway. An elm tree of this size will have roots that extend at least 2 to 3 times beyond this immense canopy. So, although it is hard to map this root system with specificity, my professional experience tells me that a significant portion of roots have spread into the courtyard of 1013 E Street, and to a lesser degree, into the rear courtyard of 1015 E St.

You presented me with a graphic, and also suggested a building addition that would extend at least halfway into the available space in the courtyard of 1013 E Street. And, that there will be excavation for a multi-level lower level basement. If this proceeds as planned, I am quite concerned that the level of root loss that is probable on both 1013 and 1015 E Street would stress this tree to a significant degree. I cannot be certain of this impact, because of the conditions described, but my experience with other situations like this leads me to a heightened level of concern. And, because this is such an old tree, and one that is already exhibiting signs of stress, I am afraid that the added stress would prove irreversible. In short, I feel that the likely scenario would be a slow decline in health that could take 5-10 years, and end in the demise of this stately tree.

503 11th Street, SE:

The tree behind your home is a Black walnut. It measures 21.5" of diameter, or 67.5" of circumference, and is in good condition. Together we measured the distance to the wooden fence to be 12 feet. I noticed that there are several limbs that overhang the neighboring property at 1015 E Street. This distance of 12' to the proposed new construction is outside of any anticipated root plate zone that could impact the larger supporting roots. However, it is within the 21.5' CRZ that would be imposed by the DC UFA. And, because of the smaller tree diameter, the CRZ zone would be the same in Maryland.

My observations lead me to believe that most of the roots will be found in your rear courtyard, and your neighbor's to the left. The existing structure at 1015 E Street has probably deflected the CRZ, which extends beyond your fence. There will certainly be some roots there, but I don't anticipate a great deal. I also noted that the root flares are pointed into your lot, and your neighbor's to the left. It is hard to predict what roots will do underground, but I suspect that there has not been significant root expansion into 1015 E Street. Therefore, based upon my observations, I feel that the anticipated root

loss for your tree is within the acceptable limits for a tree of this size and species.

My primary concern with your tree is with the mid-sized limbs that extend over this neighboring property. These will need to be pruned back to accommodate any extension of the existing structure, but this is certainly within the realm of a competent tree care company.

To summarize, the American elm tree at 1011 E Street is a specimen of this species. It has been in place for at least 80 years, and its roots will have spread well beyond its canopy. And, provided that the addition is not constructed, and that it receives the fungicidal treatment outlined, this tree should be in the landscape for many years to come.

The Black walnut in your back yard is also a very nice tree. However, I do not anticipate a significant change to its health given the proposed development plans. Several limbs need to be pruned back, but a competent tree care firm could accomplish this task without harming this tree.

Thank you for the opportunity to offer these observations and recommendations. Please contact me with any other questions you may have.

Sincerely,



Keith C. Pitchford
ISA Certified Arborist, MA-0178
ISA Certified Tree Risk Assessor, #922
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MD Licensed Forester, #675

