



WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

Environmental Consultants

March 12, 2009

Mr. Gary Cohen
Saimac Development, LLC
2 Wisconsin Circle, Suite 550
Chevy Chase, Maryland 20815

Re: **Tree Evaluation**
Canal Parc, Washington, DC
WEG Project # 3424B

Dear Mr. Cohen:

Williamsburg Environmental Group, Inc. (WEG) was retained by your organization to assess the condition of three trees located at 4460 MacArthur Boulevard NW in Washington, DC. Specifically, the focus of this study was to examine the existing health and structural condition of these trees and determine the potential affects of adjacent construction activities on the subject trees.

A site visit was performed on February 25, 2009. The subject trees consist of three mature willow oaks (*Quercus phellos*) located immediately behind the sidewalk running parallel to MacArthur Boulevard. The subject trees range in size from 23 to 29 inches diameter at breast height (dbh). All trees are in fair condition and exhibit no significant signs of decline. The three trees exist in an urban landscape with limited rooting area due to adjacent hardscapes and underground utilities as well as a significant slope present behind these trees. There are overhead utilities present adjacent to the crowns of these trees as well. The following sections describe the existing conditions of the subject trees and potential affects of construction. Representative photographs are included with the report.

Observations

Tree 1 – 29 inch dbh:

This stem is being affected by girdling roots which can constrict not only the growth of the stem, but flow of water and nutrients through its cambium layer. These roots are of small diameter, but if left untreated will increase in size and may cause irreparable damage to the stem. Girdling roots are often associated with trees that were not planted properly and/or planted in urban environments with rooting obstructions. It is estimated that up to 40 percent of this tree's surface roots are exposed and showing signs of anthropogenic, as well as mechanical damage. These exposed roots can become a conduit for fungal based tree diseases. Further up the main stem of the tree, wounds from previous pruning operations were observed. All of the subject trees have been historically maintained through pruning due to their close proximity to the sidewalk which receives heavy pedestrian traffic and the presence of overhead utilities. Some of these pruning wounds have not properly healed, resulting in callus wood growth and poor compartmentalization. Within the crown of this tree, large deadwood was observed within scaffold branches, some of which is currently overhanging the sidewalk, public parking area, and a portion of MacArthur Boulevard as depicted in

ZONING COMMISSION
CASE No. 08-21
EXHIBIT No. 172

Photograph 4 (see attached Photo Layout). Smaller diameter deadwood and broken limbs are also present within the crown. This is typical of self-pruning species such as willow oaks.

Tree 2 – 24 inch dbh

This tree contains a small amount of exposed surface roots, some of which have been damaged either by mechanical or anthropogenic means, and show signs of decay. The presence of decay is evident through the presence of fungal growth as noted in Photograph 5. Further up the main stem, pruning wounds are present that have not healed properly and contain poorly compartmentalized wood. Large deadwood as well as smaller diameter deadwood and broken limbs are present within the crown of this tree. It is believed that this deadwood is associated to the stems nature of self pruning.

Tree 3 – 23 inch dbh

This tree also contains a small amount of exposed surface roots and has smaller diameter girdling roots present at its base. There are trunk wounds present at the base of the main stem of this tree that have not completely sealed with callus growth as depicted in Photograph 7 and there is deadwood present within the main stem. Like the other trees, pruning wounds are present that contain deadwood. Smaller diameter deadwood and broken limbs are present within the crown of this tree.

Discussion

Based on the proximity of proposed development, the likelihood of survival for these trees following construction activities is very low. Based on construction plans, it is estimated that over 50 percent of each of these trees root zones will be impacted by construction. Although willow oaks are fairly tolerant to disturbance, such significant loss in rooting area will greatly impact the health and survivability of these stems. Excavation and fill activities are proposed to occur within such close proximity to the subject trees that root and crown damage will be unavoidable. It is anticipated that up to 6 feet of fill may be placed behind these trees to alleviate the existing steep grade. Damaging impacts to roots associated with this amount of fill may include soil compaction, decreasing the roots ability to take in nutrients and water, potentially resulting in stem mortality. The most significant impact associated with excavation and construction around the base of the subject trees is severed roots. Due to the proximity of excavation, it is anticipated that a significant amount of structural roots over 3 inches in diameter will be severed, resulting in immediate impact to the structural integrity of the trees and a significant increase in hazard potential.

Conclusion

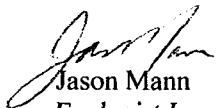
Currently the subject trees are in fair condition, however, it is anticipated that proposed construction activities will have a significant impact on the health and structural integrity of the trees. With such a large area of the root zone being disturbed, the preservation of these trees would be difficult and the hazard potential of these trees will increase significantly following construction activities. These trees are located in high-use areas with a number of targets present to include person and property. Furthermore, the subject trees are at or approaching the height of their maturity within their present growing environment and, despite proposed construction activities, continued health and vigor can not be guaranteed over the long term should these trees be left in the landscape in their current state. Should it be determined that the aforementioned

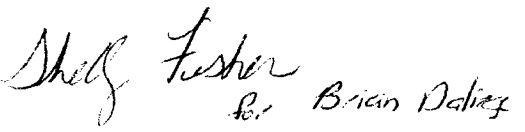
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stems need to be removed, all removals and plantings shall be done so in accordance with the *District of Columbia Municipal Regulations* Chapter 37, Title 24.

If you have any questions regarding the findings of this report or need clarification on any of the aforementioned items, please feel free to contact me at your convenience.

Sincerely,


Jason Mann
Ecologist I


Brian Daliege
ISA Certified Arborist
Environmental Specialist II



Photograph 1 – Photo depicting grade proposed to be filled behind Trees 1-3. Up to 6 feet of fill may be required in some areas.



Photograph 2 – Photo depicting proximity of existing sidewalk to Tree 1. Existing sidewalk is also within close proximity to Trees 2 and 3. Existing underground utilities are present under the sidewalk.



*Photos taken by: J. Mann
Williamsburg Environmental Group, Inc.
February 25, 2009
WEG Project # 3424B*



Photograph 3 – Exposed roots associated with Tree 1.



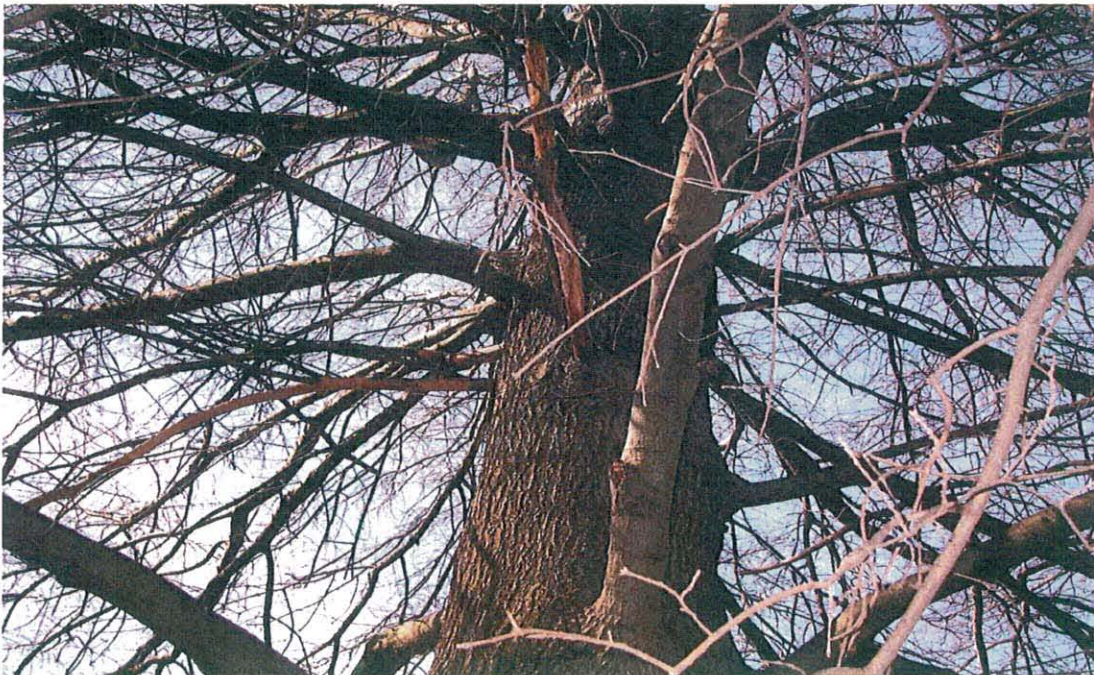
Photograph 4 – Large deadwood in scaffold branches of Tree 1 (lower branch) overhanging sidewalk and MacArthur Boulevard. Note overhead utilities in crown of tree.



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Photograph 5 – Damage of exposed root associated with Tree 2. Note orange-colored fungus on root which may signify decay.



Photograph 6 – Large and smaller diameter deadwood present within the crown of Tree 2.



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Photograph 7 – Trunk wound on base of Tree 3. Note opening between callus growth which may serve as an entry point for disease causing organisms. Deadwood is present inside of this wound.



Photograph 8 – Exposed girdling root at the base of Tree 3.



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