



NATIONAL GUARD BUREAU

111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1382


NGB-ARE-C

05 AUG 2009

MEMORANDUM FOR All Consulting Parties Participating in the National Historic Preservation Act (NHPA) Section 106 Process for the Disposal of Admirals Row, Brooklyn Navy Yard

SUBJECT: Preservation of Mature Trees at Admirals Row, Brooklyn Navy Yard

1. On July 14, 2009, National Guard Bureau (NGB) staff visited the Admirals Row property to determine tree mitigation efforts associated with the disposal of property.
2. Major Steve Stadelman, a Certified Forester with the Society of American Foresters, examined all trees along Flushing Avenue. These trees are considered part of the mitigation efforts required under NHPA Section 106 process. MAJ Stadelman identified the species present, their condition, and provided tree preservation recommendations including preserving four trees; one scarlet oak and three American elms. Many of the larger trees on the property exhibited signs of poor health and defects which warrant safety concerns.
3. The preservation of these four trees, at a minimum, will be part of the NHPA Section 106 mitigation requirements, and will be memorialized in the associated Memorandum of Agreement (MOA) prior to disposal of the property by the Department of the Army. There will be no restrictions, however, if the new property owner chooses to attempt preservation of additional trees. The four trees identified during the July 14, 2009 site visit are considered the minimum requirement. Details regarding the site visit are available in the attached memorandum for record, dated July 21, 2009.
4. The point of contact is Ms. Kristin Leahy, Cultural Resources Program Manager, at 703-607-7190 or kristin.leahy@us.army.mil.


MICHAEL J. BENNETT
COL, NGB
Chief, Environmental
Programs Division

MEMORANDUM FOR RECORD

SUBJECT: Brooklyn Navy Yard (BNY), Admiral's Row Urban Tree Assessment performed on July 14, 2009

1. Purpose. To provide an assessment of the tree species present, condition and potential for retention in support of the BNY land disposal and future use. The area assessed is boarded by Flushing Ave., Navy St., Forth Street and Park Street.
2. NGB Personnel. Ms. Kristin Leahy and MAJ Steve Stadelman, NGB-ARE-C.
3. Background. Admiral's Row is a group of historic buildings and structures that will be modified as a result of the BNY land disposal. At present, building B and the timbershed (#16) are to be preserved and used as office/commercial space. All other buildings will be removed with a follow-on land use of commercial development and parking. The future use of both the preserved buildings and others to be removed is important as it influences the risks associated with protecting and maintaining existing trees.
4. Summary.
 - a. Species present: The open space in and around Admiral's Row include large shade trees and smaller trees that have naturally regenerated in the housing units yard space. Species present include American elm (*Ulmus Americana*), Norway maple, (*Acer platanoides*) red and white mulberry (*Morus rubra* and *alba* respectively), black cherry (*Prunus serotina*), paulownia (*Paulownia tomentosa*), tree-of-heaven (*Ailanthus altissima*), scarlet oak (*Quercus coccinea*), aspen (*Populus spp.*), horse chestnut (*Aesculus hippocastanum*), and sycamore (*Platanus occidentalis*). In addition there is an extensive network of vines which includes wisteria and poison ivy among others.
 - b. Condition: Many of the larger trees are in poor condition due to storm damage and improper pruning. Dying limbs, open bark wounds with advanced decay, epicormic sprouting, root girdling, basal wounds, poor branch structure, poor tree architecture and included bark were commonly observed. These defects indicate structural defects within the trees as well as reduced vigor. Many of the larger trees were located at least 12 feet from the structures however many of the smaller trees that became established by natural regeneration were growing very close to the buildings. In some cases, the trees were only a few inches from the side of the structure.

SUBJECT: Brooklyn Navy Yard (BNY), Admiral's Row Urban Tree Assessment

- c. Age: Although some trees are large it is unlikely any are greater than 100 years in age. However, the large sycamore south of building K and the large American elm south of building C may be approaching the 100-year mark.
- d. Disease: All the sycamore trees exhibited signs of being infected with sycamore anthracnose. The horse chestnut exhibited leaf spots but I was unable to determine the cause.
- e. Surrounding Community: This grouping of urban trees benefit the surrounding community. The trees provide direct shade along Flushing Ave. and Navy Street along with green scenery within the community urban viewshed. The trees also provide significant habitat for avian species.

5. Recommendations:

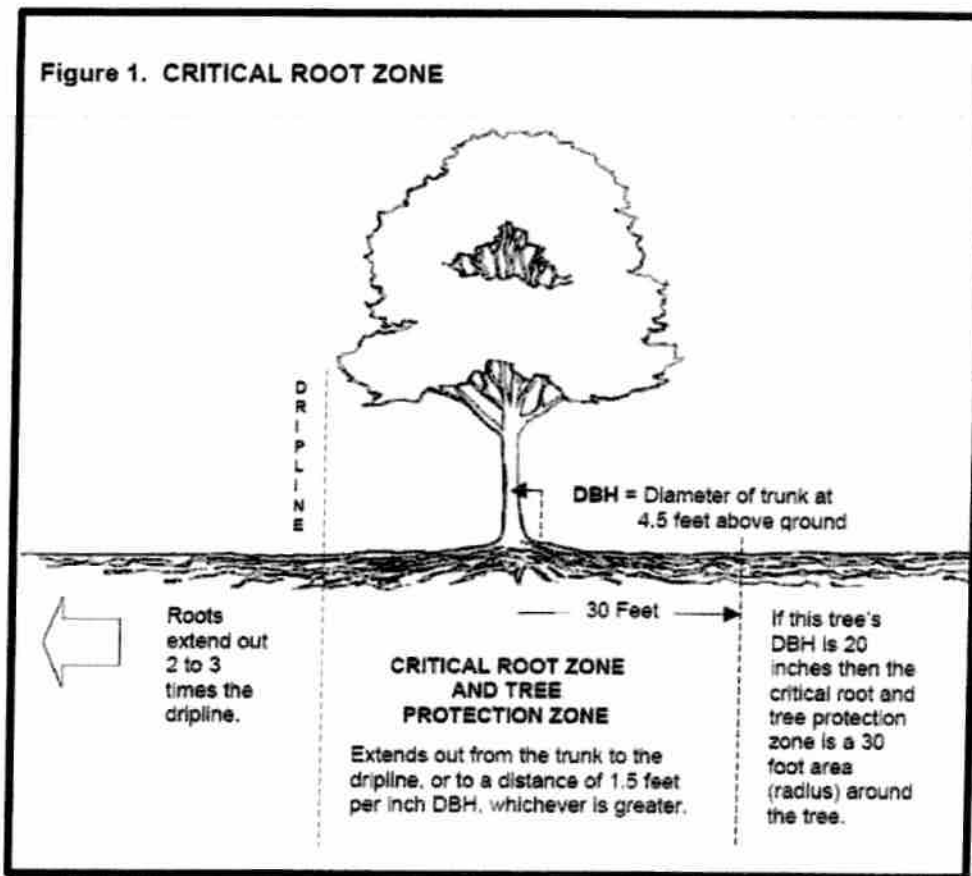
- a. Trees located around the timbershed and building B may have less soil and root zone disturbance since these buildings will be preserved. Three trees located on the south side of the timbershed were marked for protection and possible preservation. One tree on the east side of building D was marked for protection. The mark consists of orange paint spots on all four sides of the tree. No trees suitable for protection and preservation were found around building B. These trees are located farther from potential soil/site disturbance and are in good health:

Tree Species	Diameter	Location
Scarlet Oak	20 inches	South of timbershed
American Elm	14 inches	South of timbershed
American Elm	6 inches	South of timbershed
American Elm	14 inches	East of building D

- b. It is recommended the critical root zone of these trees be protected during subsequent preservation and development of Admiral's Row. The critical root zone is an area which extends out from the tree, normally 1.5 feet for every inch of diameter (diameter measured at 4.5 feet from the ground) and contains the surface roots of the tree. Construction fencing can be placed around this zone to help identify and protect the area. See Figure 1, Critical Root Zone, for more information on determining the critical root zone.
- c. The large American elm located on the south side of building C is quite large and may be a candidate for the State of New York Big Tree Register. It is recommended (not required) the tree be measured to determine if it is larger than the current American elm and thus be the largest American elm in the State of

SUBJECT: Brooklyn Navy Yard (BNY), Admiral's Row Urban Tree Assessment

New York. The New York Dept. of Environmental Conservation maintains the big tree register and can be reached at NYSDEC, Lands and Forests, 625 Albany, NY, 12233-4253, (518) 402-9425.



- d. The remaining trees are strong candidates for removal during the redevelopment process. This is due to several factors. First, the defects observed on many of the larger trees and some of the smaller trees are structural and indicate a risk of unpredictable tree failure. With the planned future use of a parking lot, it is not recommended to retain trees with existing structural defects. These structural defects cannot be removed by pruning. Second, many of the trees are undesirable species for the planned future use of the area. A few examples are sycamore (vulnerability to sycamore anthracnose, London Plane Tree, *Platanus acerifolia*, is a more appropriate tree), blackcherry (vulnerability to insects and disease) and tree-of-heaven (brittle wood). Third, many of the existing trees have extensive surface root systems and are highly vulnerable to disturbance.

SUBJECT: Brooklyn Navy Yard (BNY), Admiral's Row Urban Tree Assessment

It is predicted many of the buildings to be removed cannot be done without greatly disturbing the critical root zone of many of the trees. The undesirable disturbance will not cause an immediate death of the trees but rather a delayed death, likely occurring three to four years after disturbance. The delayed impacts (or tree death) inadvertently create hazardous trees after the development or construction has been completed. For more information on hazard trees see: http://www.na.fs.fed.us/spfo/pubs/howtos/ht_haz/ht_haz.htm

- e. It is recommended to plan for replanting of desirable trees as early as possible. The State of New York Department of Environmental Conservation can provide recommended species. Because removal of this greenspace affects the local community, it is also recommended to work with tree planting groups to generate local support for replanting and species selection. One example group is Million Trees NYC, web site: <http://www.milliontreesnyc.org/html/home/home.shtml>

MAJ Steve Stadelman/NGB-ARE-C/607-7968
steve.stadelman@us.army.mil