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FROM BOOKER T WASHINGTON NM

TO

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UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Forest Pest Management
Shady Oak and Iris Dr., P. O. Box 5895
Asheville, NC 28813

AUG 21 1982

3460

August 18, 1982



Mr. Bill Wilcox
Booker T. Washington
National Monument
Route 1, Box 195
Hardy, VA 24101

*Incorporate as part of RMP
revision in 1985.*

Dear Bill:

On July 20, 1982, I visited with you at BTW to examine a number of trees and buildings. My report follows.

Several of the trees on the site are quite old and large and in some cases need special attention. I will discuss each individually.

TREES

Juniperus virginiana
Cedar: The large cedar (*Juniperus*) near the caltapa (at the water fountain and water pumping station) is in good condition and needs no special care except continued protection. No additional construction should be planned. For example, the overhead electrical lines, if buried, should be placed well away from this tree's roots and those of the caltapa. Trenching for placement of lines underground should be kept well away from the root zone of any desirable tree. Likewise, the same consideration should be given to the placement of water lines that run to or from the pumping facility and any excavations for placement of road or trail paving.

Catalpa speciosa
Caltapa: The caltapa has a full crown and healthy foliage. However, there is a lot of decay in the main trunk and many of the large limbs that will eventually affect the structural integrity of this tree. If a failure does occur, the health of the remaining part and the safety of visitors and employees, will be jeopardized. Several things can be done to enhance tree health and visitor safety. They are:

1. Thin the crown to reduce weight and wind resistance and thus lower the possibility of storm damage. Prune limbs so that the integrity of crown shape is not lost by removing branches at a fork.
2. Cable the large limbs to reduce the stress on decayed crotches. Cable placement should tie tree limbs to the main stem to transfer and distribute stresses throughout the crown.

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3. Do not concentrate visitors under this tree. Do not install benches or permanent displays under it. The demonstration now conducted in its shade should be kept to the side of the tree and not directly under it.

Several additional points should be considered with respect to this tree. First, replacements should be considered now for this tree and all trees of historic significance. If this caltapa was alive at the time BTW lived there, then seeds and/or cuttings (information attached) should be started now. The Park Service can thus perpetuate this tree with its historic integrity intact. This also reduces the pressure on the PS administration to maintain a given tree beyond safe and reasonable limits, since trees will not live indefinitely. Several seedlings could be begun in a nursery and one eventually planted near the existing tree. It could be planted close enough to be nearly accurate in location, but in a position to get adequate light, and not be damaged by falling limbs. *working...*

When pruning any tree, heavy wound dressing paints should not be applied to the cut surfaces, since they frequently impede drying of the wound and thus promote decay. If a dressing is desired for cosmetic reasons, any exterior grade wood stain that does not contain wood preservatives like pentachlorophenol can be thinned and applied.

When any historic tree must be removed, a wafer several inches thick should be removed from the butt near the ground. Such a wafer, when cut from a sound tree, shows the growth rings and can be of great importance for historic exhibits. The wafer should be labeled with the species, location of tree, date cut and stored or displayed. A wafer from the caltapa will not be sound, since decay is evident, but should be collected and preserved.

Quercus alba
Twin Oaks at Spring: The current path to the spring passes between these two oaks. As a result, soil compaction, injury of exposed roots from mowers and/or visitor foot traffic is causing root damage.

Several things can be done to reduce root injury. They are:

1. Replace gravel on path with wood chips to reduce abrasion to surface roots.

2. Prevent mower injuries.

3. Do not pave this path or do any excavating. The tendency in some parks to trench and blacktop trails of this type is very destructive to underlying roots.

4. Thin crowns to reduce weight and wind resistance. This is particularly true of the tree on the opposite side of the path from the spring. This tree shows signs of a split. It should be carefully observed over time to determine if the split becomes worse. This type of split suggests it was severely twisted, perhaps during severe turbulence in a local storm.

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One thing that should be considered is the relocation of the path itself. Presently, it passes between the two trees on a fairly steep grade. It could be relocated further uphill, skirting the trees at the dripline, and crossing above the spring. It would then enter the bridge from the opposite end and be away from the trees altogether.

Peach tree: The peach tree in the garden behind the kitchen cabin is suffering from a fungus caused disease. It should be cut and burned.

BUILDINGS

While there, we discussed several building preservation techniques and the fact that pentachlorophenol is no longer used. In the past, logs and lumber were often treated with wood preservatives containing pentachlorophenol. Apparently, it was believed that this material gave total protection to the wood from decay fungi, and wood destroying insects when the wood was dipped, painted or sprayed. Surface treatments of this type may afford some temporary protection. However, penta applied to the surface only penetrates about 1/32 of an inch through the side of the log. Penetration through the end grain may be several inches but not the full length of the log. Thus, logs treated in this manner were not preserved throughout their entire length and cross section as would have occurred if they were pressure treated. Pressure treatment with penta provides excellent protection, but in wood inside structures, penta poses a high health risk.

Penta has recently been removed from use by many organizations because it was often handled improperly. In addition, the longlasting protection that was desired and believed to exist with brush, dip and spray applications simply was not attained. Adequate protection can be obtained though through the variety of other techniques described below.

Kitchen cabin: There are no perservatives that you can or should apply that will give total protection. The best protection program that you can develop for this and similar structures is to keep the wood dry. This can be done here by:

1. Keeping the roof in good repair to prevent leaks.
2. Extending the spouting and moving the rain barrel further from the cabin to reduce rainsplash onto the corner logs.
3. Removing the cherry tree (as is being done) from beside the chimney to provide ventilation for the wall logs. *gone I think*
4. Keeping grass trimmings and tall growth from accumulating around bottom logs. The moisture that accumulates can be adequate to stimulate the growth of decay fungi and be attractive to wood destroying beetles.
5. Inspecting chimney/building joints to detect leaks. Repair leaks to keep logs behind masonry from decaying.

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6. Replacing the potato hole liner with ^{2.}CCA pressure treated lumber when the liner is replaced. This is a damp area and the wood is in contact with the soil. It is an attractive place for wood insects to become established and move from there into the cabin itself. In this instance, the green color of the treated lumber would nearly match the color of the present liner.

If this building ever suffers a severe infestation of wood insects, it should be fumigated. Fumigation gives no longlasting protection but the buildings small size would make tenting and fumigation quite economical.

Smokehouse:

1. Some of the logs have been severely damaged by beetles. I believe that this occurred some time in the past when the roof was in bad repair, perhaps before reconstruction. Currently there is little activity.

2. There are a number of carpenter bees now working in some of the roof framing. These particular insects are almost impossible to control. About the only thing that can be done is to impregnate a cotton ball with an approved insecticide, place it in the hole and putty the hole shut. Puttying the hole is important because the bees are attracted to wood that has holes in it.

3. Keep grass cut and clippings cleared from around base.

Tobacco barn: The tobacco barn is in rather poor condition. There is considerable wood beetle activity as evidenced by the numerous piles of wood boring dust on many of the logs inside. The biggest problems with the barn are: moisture evaporating from the soil inside thus raising the moisture content of the logs, a lack of inside ventilation, and moisture moving against and perhaps under the back wall. This building could be further protected by:

1. Increasing the ventilation inside by opening holes in the gables.

2. Ditching behind the building (side opposite the door) to divert water. This can be several feet from the wall.

3. Keeping vegetation such as honeysuckle vines cleared from the walls and ground at the base of the walls.

4. Removing bark from any replacement logs and be certain that all replacement logs are dry--not green.

5. Not using poplar logs for replacement logs. They are extremely attractive to beetles. Use dry oak that has been trimmed of its sapwood.

This building could be fumigated to cut the infestation down to more acceptable levels. However, it would have to be ventilated and cleared of vegetation outside. If not, the building would be subject to almost immediate reinfestation.

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Fences: Fences are difficult to protect. Where penta was used as a dip for rails in the past, it is no longer available. In addition, it was not as effective as was thought. Since no chemical is currently acceptable or economical, the rails will deteriorate. This process can be slowed or otherwise planned for by:

1. Keeping rails off of the ground as much as possible. For example, place bottom rails of worm fence on rocks.
2. Keeping vegetation from growing on fences and away from base.
3. Keeping a supply of locust, heartwood split rails on hand for replacements. These can be stored in the open, off the ground so that they can weather and be more easily mixed with existing rails. The chestnut rails will eventually decay and not be replaceable with the same species. Locust is native to the area and should blend well with the chestnut after weathering. Locust heartwood rails that are kept off the ground should last 50 years or more.

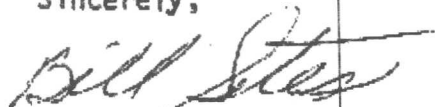
Environmental Education Center: While there we looked at the baseboard in the Mary McLeod Bethune room storage closet. This wood was infested and completely destroyed by old house borers. This insect infests very dry wood and is extremely difficult to control. It may not have attacked any other woodwork and unless some more damage is found, overall treatment of the structure is not necessary. For the present time, control can be limited to removal of the infested wood and the adjacent baseboard and door casing and burning them.

I enjoyed working with you and the time you spent demonstrating things to us. I plan to return to BTW when we are able to extract tree cores and I will be happy to answer additional questions then or in the meantime.

On September 21 and 22, a training session will be conducted in Roanoke. Many of these same points will be discussed on the second day. You have probably received notice of this session, but let me provide you with a copy of the schedule. You are of course invited to attend. There is no cost to you except your personal expenses.

I am also planning a training session specifically for NPS employees that will be held at the George Washington Birthplace sometime in October. The exact time has not yet been determined but this session will be designed specifically for your needs and may be more suitable than the one in Roanoke. Dwight Storke will have more of the details.

Sincerely,


WILLIAM H. SITES
Plant Pathologist

Enclosures (2)