

Spring Lake Borough Pazienza Park Tree Assessment Report

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SUMMARY: *Shelterwood Forest Managers, LLC was contracted by the Borough of Spring Lake to conduct a basic tree risk assessment and evaluation for 88 trees located at Pazienza Park . These trees were individually evaluated photographed, acoustically sounded and assessed using a Level 1 visual assessment.*

In total 88 street trees were tallied, evaluated and are included in this report. The majority of trees included in this assessment were Oaks, and ranged from 15 to 195 years old. The eighty eight (88)) trees ranged from 2.5" caliper Willow oak to a 39 inches dbh (diameter at breast height) White oak. Tree heights ranged from 15' to 75' with the mean height being 35-40'..

METHODOLOGY: Visual Tree Assessment (VTA)








There are a number of published methodologies the professional arboriculturist can follow when inspecting trees. The bottom line is that whichever process is used, it must be a logical, systematic and diagnostic approach.

Additionally the inspection should consider the surrounding environment, in which the trees are growing, with particular attention to the site history and any recent changes. An important note is the time period used in the risk assessment. In this case a 1-year time period was used in the assessment. The trees evaluated were believed to be reasonably free of defect and risk for the period of a year. Increasing the time period increases the uncertainty and increases the estimates of removals and pruning.

The most widely used approach, when inspecting trees, is Visual Tree Assessment (VTA), as devised by Claus Mattheck. The assessment consists of 3 stages and compares the tree being inspected to a notional healthy, vigorous and defect free specimen.

It is important to note that even healthy, vigorous and defect free specimens have a natural failure rate. Also note that these are only visual inspections from the perspective of ground level. Defects both hidden from below by position or height or root defects below ground cannot be determined by this level of assessment.

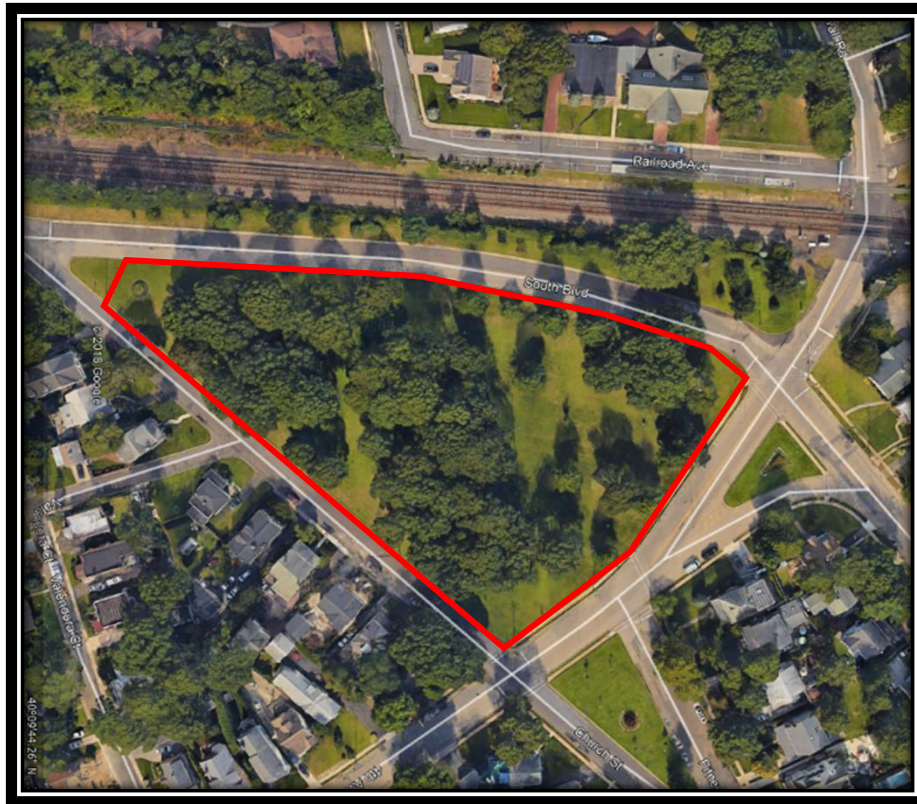
Level 1 Assessment:

-  Identify the location and selection criteria for trees to be assessed.
-  Determine the most efficient route and document the route taken.
-  Assess the tree(s) of concern from the defined perspective, i.e. route taken, walk or drive.
-  Record location and condition of trees along the defined route (Pazienza Park)
-  Evaluate the risk.
-  Identify trees needing a higher level of assessment and/or prompt action.
-  Submit recommendations or report.

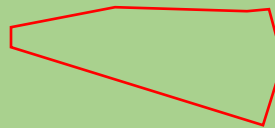
The following conditions were used to evaluate the tree risk within Pazienza Park in the Borough of Spring Lake using a visual inspection performed on the ground.

1. Major Defects and Tree Conditions
2. Root collar/Root plate - loss of support
3. Decay (root, trunk, structural limbs)
4. Cracks (trunk, structural limbs, branches >2")
5. Codominant stems (and/or Included bark)
6. Dead parts
7. Broken and/or hanging branches
8. Unusual tree architecture (lean, taper, limb/branch distribution, cultural)

**Spring Lake Borough
Pazienza Park
2015 Imagery – Google Earth**



Pazienza Park - Trees evaluated
within red outline

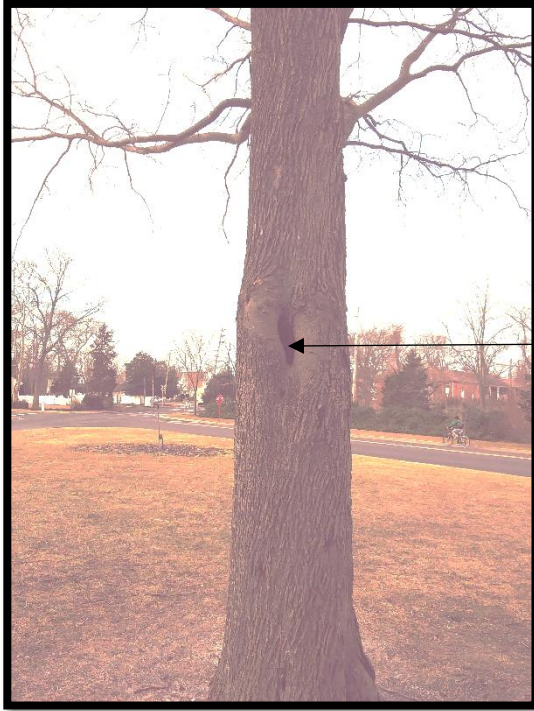


The 88 trees included in this inventory were all estimated to be between 15 - 195 years old. Many showed multiple pruning cuts that included both sealed and unsealed wounds. Some of the unsealed wounds had visible interior decay initiated and ongoing from the unsealed pruning cut. Several trees had the root flare covered with excess fill material from that same sidewalk and curb construction. Some pruned areas showed little or no reaction wood response to the pruning. This condition shows those trees are in decline and are having difficulty maintaining basic processes. Twig growth in these trees was 1 ½ -2 inches well below the normal twig growth of healthy specimens. This reduction in growth was no doubt a result of the past two years (2016/2017) of late growing season drought and the overall declining condition of the trees. The late season rain of 2018 did not seem to benefit many of the trees seen in decline.

After evaluating these 88 trees and seeing the accumulation of impacts to these trees over time: mower impacts, string trimmer impacts, storm damage, unsealed pruning cuts, little or no twig growth, extensive trunk decay, dead limbs, and filled root caps, my recommendation is to remove the trees per the recommendations and plant replacements. Using a 5-year review period these trees will simply

continue to decline and pose a hazard for the next 5 years. Removing them and replacing them with healthy trees with 5 years of growth is preferred. Few possible hazards for 5 years and 5 years of growth on the new trees to gain size and stature.

The assessment began in the south-western corner and proceeded from west to east until all trees were evaluated. Below are the basic conditions displayed by a selected number of trees evaluated:

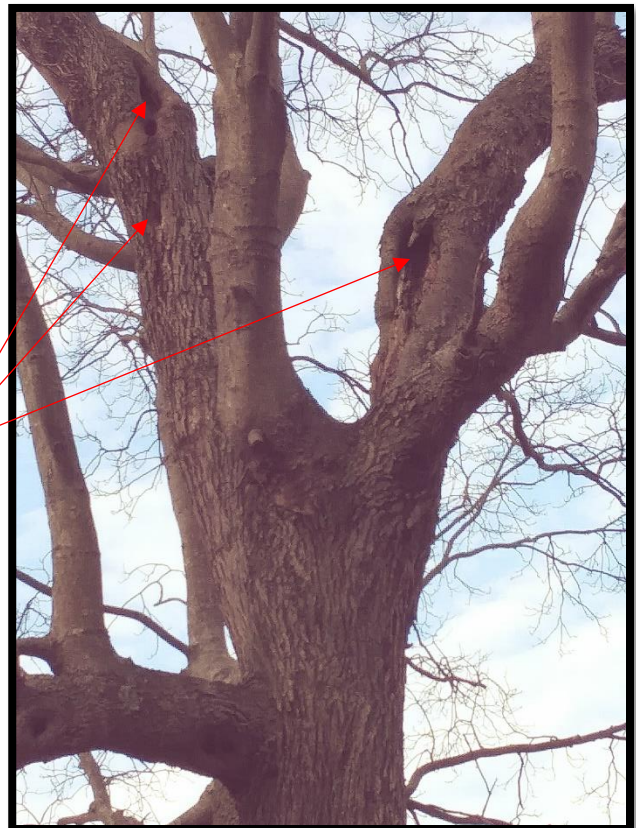


1. *Carya tomentosa*, Mockernut hickory, 25" dbh, 50' in height.

This tree showed extensive decay as shown by the open trunk wound seen in the picture. This tree also displayed decay in the roots, structural limbs and branches greater than 2 inches. The risk assessment determined that this tree should be removed.

← Extensive trunk decay.

Unusual branch architecture, extensive decay in structural limbs in this the same Mockernut hickory. This tree is a hazard.





2. *Quercus alba*, White oak 20" dbh, 20' in height. This tree appeared to suffer a lighting strike that resulted in extensive decay in the trunk, structural limbs and branches more than 2" in diameter. This tree also displayed fungal root conks (fungi fruiting bodies) at the base of the trunk.

The risk assessment for this tree was to recommend removal

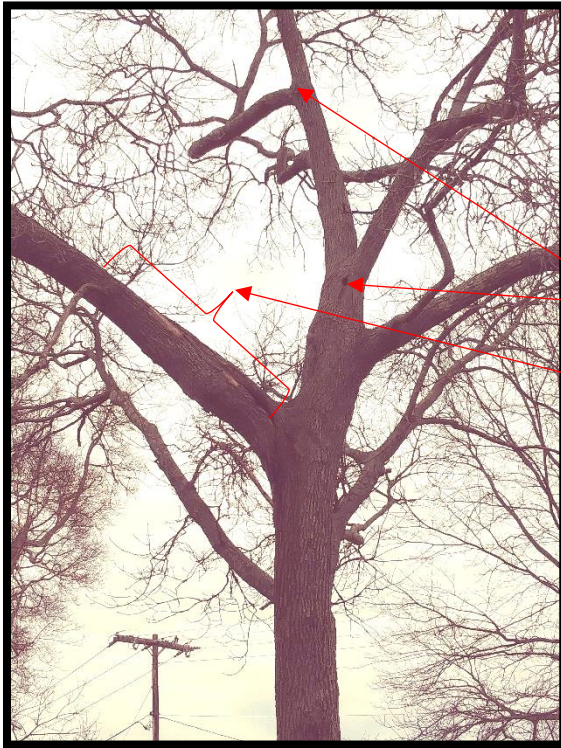
Extensive trunk decay in this white oak may have begun as the result of a lighting strike or trunk failure in a wind event.

Recommendations were marked in the field by painting the trunks of trees recommended for follow-up work. **Pink = prune. Red = Remove**

This tree is painted red and recommended for removal.

Trunk decay down to the ground is clearly seen in this 20" dbh White oak.





3. *Quercus velutina*, Black oak. 22" dbh, 62 feet in height.

This tree showed extensive decay in the main structural branch along with decay higher up in the main trunk as well as unusual architecture probably due to old branch decay and subsequent loss.

This tree shows decay high up in the main trunk.

This tree's main structural branch shows extensive decay.

Pruning the main structural limb would have left the tree with an even more unusual architecture and significantly unbalanced crown subjecting the tree to the increased likelihood of wind throw.

The recommendation for this tree was removal.

All 88 trees in Pazienza Park were individually evaluated using the Level 1 visual assessment according to the guidelines shown above. Trees that could be improved structurally to reduce risk were marked for pruning. Trees that showed extensive root, trunk or structural limb decay or a combination of all three were marked for removal. Trees that looked sound were left unmarked for no action required.

Totals:

87 trees inventoried and assessed.

27 hazard trees recommended for removal

22 trees recommended for structural pruning to remove decayed or poorly attached branches.

5 trees recommended for JCP and L removal

33 trees recommended for no action.

The trees in Pazienza Park appear to be the remnants of a NJ native, coastal plain oak-hickory forest type. This possibility should be considered in selecting any replacement trees for replanting in the park. NJ currently has removed recommendations for planting the Red oak tree type (Red, Scarlet, Black oak) for their susceptibility to bacteria leaf scorch (BLS). Therefore planting recommendations are limited to the White oak tree type as shown in the Table 1 and the native Persimmon, a tree that is planted and doing well in Divine Park (page 7).

Table 1: Suggested Replacement Trees

Scientific Name	Common Name	Notes
Quercus bicolor* @	Swamp white oak	Native. Tolerant of salt. Large stately shade tree.
Quercus alba # @	White oak	Native. Large stately shade tree
Quercus macrocarpa* @	Bur oak	Native: Large slower growing stately shade tree with winter interest with corky-bark.
Quercus muehlenbergii # @	Chinkapin oak	Native. Medium sized, stately shade tree with Chestnut-like leaves.
Diospyros virginiana	Persimmon	Native. Medium sized tree. Fruit bearing.

* Available at Tuckahoe Nursery, Cedarville, NJ:

https://img1.wsimg.com/blobby/go/0de04646-5c28-4d60-a207-20f343ff9536/downloads/1d18vfpth_773781.pdf

Available at Barton's Nursery, Retail Yard Edison, NJ. Nurseries, Plainsboro, Robbinsville, NJ:

<https://bartonnurseries.com/index.php/products/>

@ Available at Fernbrook Farms Nursery, Bordentown, NJ:

<https://www.fernbrookfarms.com/nursery/find-a-plant/>

Map courtesy of Melissa Ix of Studio HIP for the Spring Lake Shade Tree Committee

