Village of Mamaroneck Tree Committee
6 September 2023 FINAL Minutes

Approval of the July 6, 2023 Minutes (Attachment 1)*

*Comments from Residents (*Please limit in-person comments to 3 minutes*)

*Correspondence
Correspondences (5) on various subjects from130 Beach were reviewed

*Old Business
- Discussion of Village tree issues. Second arborist assessment (Bartlett Tree) of Tompkins Farm Oak was received 5 September and distributed, attached to 9/6 minutes

Reporting Active Tree Removals
- Call Building Department (914) 777-7731
- After hours, call Police Desk 914-777-1122; Courtney will show them how to find list with status of permits.

New Trees
- Locations for fall trees are in process, including pilot program for BROW

*Other Business
Fall programs will include:
Guided Tree Walk
Pruning Workshop
SLF Workshop building SLF traps 10/23
American Chestnut documentary 10/25

Village of Mamaroneck

Tree Risk Assessment Report
Inspection ID: 9550

PREPARED FOR:

Village of Mamaroneck
169 Mount Pleasant Ave.
Mamaroneck, New York 10543

PREPARED BY:

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Tree Risk Assessment Qualified NJ0891A

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BARTLETT
TREE EXPERTS
SCIENTIFIC TREE CARE SINCE 1907

Summary

The Oak-Red located at/in the Left side of house at 202 Beach Ave of the Village of Mamaroneck property was assessed for risk on August 25, 2023 by Keith Bimbi. Using the methods outlined in this report and the results of the examination of this tree, it is my professional judgment that this tree has a **moderate risk rating**.

Mitigation is recommended for the tree parts listed below.

Tree Part	Mitigation Options	Estimated Residual Risk
Crown	Prune (Clean) to reduce the risk of branch failures	Low
Branch 1	Prune (Reduce) to reduce the risk of branch failures	Low
Branch 2	Prune (Reduce) to reduce the risk of branch failures	Low
Branch 3	Prune (Reduce) to reduce the risk of branch failures	Low
Trunk	Install supplemental support system to reduce the risk of stem failures	Low

I recommend an **inspection interval** of annually and after major storm events.

Tree risk assessment definitions are provided at the end of this report to help with understanding the terminology and with selecting the level of risk you are comfortable with when making decisions on your tree care needs.

Assignment

I was contracted by Village of Mamaroneck to assess the risk of the Oak-Red located at/in the Left side of house at 202 Beach Ave. Based on our conversation, we agreed to the following:

1. Perform a Level 2 basic and Level 3 advanced assessment (as defined in the *International Society of Arboriculture's (ISA's) Best Management Practices (BMP) for Tree Risk Assessment* and the *ANSI A300 Part 9 Standard for Tree Risk Assessment*). The limits of the assessment were discussed.
2. Make recommendations to reduce risk where appropriate.
3. Provide a written report that documents the level of risk based on tree and site conditions observed and discussed at the time of the inspection.

Assessment Procedures

The risk of trunk, crown and branch failure for the Oak-Red via a/an ground-based assessment was performed. In addition, the trunk had an advanced assessment for failure performed using resistance drilling. The assessments occurred on August 25, 2023 and followed the *International Society of Arboriculture's (ISA) Best Management Practices for Tree Risk Assessment and American National Standards Institute A300 Tree Risk Assessment Standard)*.

Tree risk ratings are derived from a combination of three factors: the likelihood of failure, the likelihood of the failed tree part impacting a target, and the consequences of the target being

struck. These factors are then used to categorize tree risk as extreme, high, moderate, or low. The factors used to define your risk rating are identified in this report.

Tools used in the assessment included: IML RESI F400S.

In addition, resistance drilling was used to identify the potential loss of structural integrity within the trunk, and provide images used for analysis within this report. The device uses a small diameter drill bit to drill into the tree and measure the amount of resistance encountered. The drill bit will encounter more resistance in wood that is intact and not structurally compromised. The drill bit will move easily through compromised areas such as a crack, cavity, decay, or void, causing a drop in resistance. The amount of resistance measured is presented as a graphic image from areas with high structural integrity to areas of no structural integrity.

Observations

The following observations were made by Keith Bimbi during the tree inspection conducted on August 25, 2023:

- Tree species: Oak-Red
- Tree trunk diameter (DBH): 77 in.

Only the following high value targets within the target zone were considered. Other targets will be considered upon request.

   1. People near the tree, 2. House, 3. Pine St, Parked Cars, 4. Power Lines

Photographs of the tree and specific defects may be found in the appendix.

Tree Risk Assessment

After discussing the site's usage and **occupancy rates** throughout the course of the year with you, combined with my observations during the assessment, we determined that within the tree's **target zone**:

- People near the tree was a frequent target,
- House was a constant target,
- Pine St, Parked Cars was a constant target, and
- Power Lines was a constant target

In determining the risk ratings, I considered a tree or tree part failure impacting a person to have one of the highest consequences, either **significant** or **severe**. I considered a tree or tree part failure impacting a structure as having severe consequences.

I used a time frame of three years when I assessed the likelihood of tree or tree part failure. Following industry standards, the time frame is one factor used in the equation to determine tree risk. Trees and sites change on a daily basis. You should not consider this time frame a "guarantee period" for the risk assessment or that the tree will not fail or is safe within this time frame.

The main concerns observed during the assessment and their associated risk ratings are provided in the following paragraph. Information not specifically summarized was not considered a significant factor at the time of assessment.

The overall risk rating for this tree is considered moderate, indicated by the highest likelihood of failure for the tree parts assessed which is possible, the likelihood of impacting a target listed above is high and the consequences of the failure and impact could be significant. If this level of risk is not acceptable to you, then mitigation actions should be taken to reduce the risk associated with this tree.

Conclusions and Risk Mitigation Options

Mitigation is recommended for the tree parts listed below.

Tree Part	Mitigation Options	Residual Risk
Crown	Prune (Clean) to reduce the risk of branch failures	Low
Branch 1	Prune (Reduce) to reduce the risk of branch failures	Low
Branch 2	Prune (Reduce) to reduce the risk of branch failures	Low
Branch 3	Prune (Reduce) to reduce the risk of branch failures	Low
Trunk	Install supplemental support system to reduce the risk of stem failures	Low

I recommend an **inspection interval** of annually and after major storm events.

All recommended work should be performed by qualified arborists and in accordance with industry accepted standards and best management practices set forth by the *American National Standards Institute* and the *International Society of Arboriculture*.

Limitations

Assignment
My assessment of the designated tree on Village of Mamaroneck's property was based on a single site visit on August 25, 2023. All photographs, samples, and readings, if applicable, were taken at the time the assessment was performed.

The assessment was limited to the visible and accessible tree parts described in the assignment.

Resistance Drilling
Resistance drilling devices can provide sophisticated results related to tree structure. This is done by measuring the amount of resistance the drill bit encounters. However, as with any higher-level technology, the amount of structural integrity loss shown can vary based on the version of the program software used. Therefore, this technology can be limited and should not be used by the tree owner/manager as the sole decision-making criteria, but rather one of many factors used in the decision-making process.

Tree Risk Assessments
It is important for the tree owner or manager to know and understand that all trees pose some

degree of risk from failure or other conditions. The information and recommendations within this report have been derived from the level of tree risk assessment identified in this report, using the information and practices outlined in the *International Society of Arboriculture's Best Management Practices for Tree Risk Assessment and Assessment and American National Standards Institute A300 Tree Risk Assessment Standard*, as well as the information available at the time of the inspection. However, the overall tree risk rating, the mitigation recommendations, or any other conclusions do not preclude the possibility of failure from undetected conditions, weather events, or other acts of man or nature. Trees can unpredictably fail even if no defects or other conditions are present. Tree failure can cause adjacent trees to fail resulting in a "domino effect" that impacts targets outside the foreseeable target zone of this tree. It is the responsibility of the tree owner or manager to schedule repeat or advanced assessments, determine actions, and implement follow up recommendations, monitoring and/or mitigation.

Bartlett Tree Experts can make no warranty or guarantee whatsoever regarding the safety of any tree, trees, or parts of trees, regardless of the level of tree risk assessment provided, the risk rating, or the residual risk rating after mitigation. The information in this report should not be considered as making safety, legal, architectural, engineering, landscape architectural, land surveying advice or other professional advice. This information is solely for the use of the tree owner and manager to assist in the decision-making process regarding the management of their tree or trees. Tree risk assessments are simply tools which should be used in conjunction with the owner or tree manager's knowledge, other information and observations related to the specific tree or trees discussed, and sound decision making.

Thank you for the opportunity to provide this information. Please contact me if you wish to review these results or discuss the next steps to take with mitigation, or if I can be of any other service in the management of your landscape.

Keith Bimbi
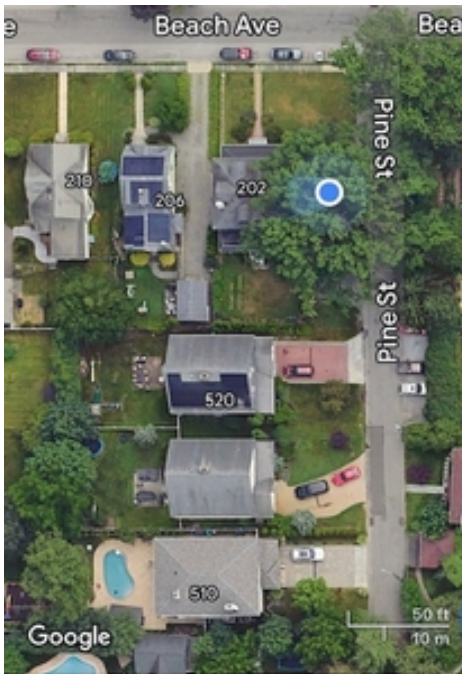ISA Certified Arborist, NJ0891A
Tree Risk Assessment Qualified

Encl. Tree Risk Assessment Vocabulary

Photographs

Red Oak

Location

Codominate Stems

Over extended limb over power lines

Phytophthora Canker

Tree Risk Assessment Vocabulary

Tree risk assessment has a unique set of terminology with specific meanings. A complete list of tree risk vocabulary and procedures may be found in the International Society of Arboriculture's (ISA) *Best Management Practice (BMP) for Tree Risk Assessment* or the American National Standards Institute (ANSI) *A300 Tree Risk Assessment Standard*. The following information is provided to assist the owner/client with understanding some of the common industry phrases or language, and some of the procedures and methodologies associated with the industry language used in the proposal and/or report.

Vocabulary Used Throughout Proposals and Reports

Inspection interval is the recommended amount of time between inspections or assessments.

Occupancy rates categorize the estimated time a target is physically within a target zone. Occupancy rate is classified as rare, occasional, frequent, or constant.

Overall risk rating is the highest individual risk identified for the tree.

Residual risk is the estimated level of risk that will remain after the recommended mitigation efforts to reduce the risk have been made. This estimate is provided to help the client understand that some level of risk may still exist and plan appropriately for future risk management.

Risk is the likelihood of an event and its consequences.

Risk rating for a tree or tree part is the combination of the likelihood of failure, the likelihood of impact, and the consequences.

Time frame is the period the assessor uses in which to estimate the likelihood of failure in all categories except the "imminent" category. The use of a time frame is meant solely to help the assessor better determine the portions of the risk analysis which are time dependent. The owner/client should never consider the time frame a "guarantee period" for the risk assessment or that the tree will not fail or is safe within the stated time frame.

Targets are people, property, or activities that could be injured, damaged or disrupted by a tree or tree part failure.

Target occupancy rates are typically identified based on information obtained from the owner/client prior to conducting the assessment, as well as information gained during the limited time the assessor evaluates the tree and site. Targets, target zones, and occupancy rates may be adjusted based on observations during the assessment.

Target zones are the areas where a tree or tree part is likely to land if it were to fail. The target zone(s) is determined in the field at the time of the assessment.

Trees can generally be defined as a woody perennial plant with a single trunk, defined crown, and will reach a minimum height of 15 feet at maturity.

Tree parts include branches, fruit, and trunks.

Tree risk is the likelihood of a tree failure impacting a target and the severity of the consequences.

Tree risk assessment is the systematic process used to identify, analyze, and evaluate tree risk. Tree risk assessments are conducted to assist the tree owner or client in better understanding the risk their trees pose so they can make management decisions to reduce or minimize those risks. Tree risk assessments focus on evaluating the structural integrity of the tree crown, branches, trunks, and roots and root collar.

Tree risk assessors are trained arborists or qualified professionals with experience in performing tree risk assessments.

Vocabulary Used to Communicate Occupancy Rates

Constant indicates a target is present in the target zone at nearly all times, 24 hours a day, seven days a week.

Frequent indicates a target is present in the target zone for a large portion of the day or week.

Occasional indicates a target is present in the target zone infrequently or irregularly.

Rare indicates a target zone that is not commonly used by people or other mobile/movable targets.

Vocabulary Used to Communicate the Likelihood of Failure

Imminent indicates that failure has started or is most likely to occur in the near future, even if there is no significant wind or increased load.

Probable indicates that failure may be expected under normal weather conditions within the specified time frame.

Possible indicates that failure could occur, but is unlikely under normal weather conditions within the specified time frame.

Improbable indicates that failure is not likely during normal weather conditions, and it may not fail in extreme weather conditions within the specified time frame.

Vocabulary Used to Communicate the Likelihood of Impacting a Target

High indicates that a failed tree or tree part will most likely impact a target.

Medium indicates the failed tree or tree part could impact the target but is not expected to do so.

Low indicates that the failed tree or tree part is not likely to impact a target.

Very low indicates that the likelihood of a failed tree or tree part impacting the specified target is remote.

Vocabulary Used to Communicate the Likelihood of a Failure Impacting a Target

Very likely to impact a target is reached by an imminent likelihood of failure and high likelihood of impact.

Likely to impact a target can be reached by an imminent likelihood of failure and medium likelihood of impact; or probable likelihood of failure and high likelihood of impact.

Somewhat likely to impact a target can be reached by one of the following combinations; an imminent likelihood of failure and low likelihood of impact; probable likelihood of failure and medium likelihood of impact; or possible likelihood of failure and high likelihood of impact.

Unlikely to impact a target can be reached by one of the following combinations; a possible or probable likelihood of failure and low likelihood of impact; possible likelihood of failure and medium likelihood of impact; improbable likelihood of failure with any likelihood of impact rating; or any likelihood of failure rating with very low likelihood of impact.

Vocabulary Used to Communicate the Consequences of Failure and Impact

Severe consequences could involve serious personal injury or death, high-value property damage, or major disruption to important activities.

Vocabulary Used to Communicate the Consequences of Failure and Impact

Significant consequences are those that could involve substantial personal injury, property damage of moderate to high value, or considerable disruption of activities.

Minor consequences are those that are believed will only cause minor personal injury, low-to-moderate-value property damage, or small disruption of activities.

Negligible consequences are those that are believed will not result in personal injury, will only involve low-value property damage, or disruptions that can be replaced or repaired.

Vocabulary Used to Communicate Overall Risk Ratings

Extreme risk applies in situations in which failure is imminent, there is a high likelihood of impacting the target, and the consequences of the failure are severe.

High risk situations are those for which consequences are significant and likelihood is very likely or likely; or consequences are severe and likelihood is likely.

Moderate risk situations are those for which consequences are minor and likelihood is very likely or likely; or likelihood is somewhat likely and consequences are significant or severe.

Low risk situations are those for which consequences are negligible and likelihood is unlikely; or consequences are minor and likelihood is somewhat likely.

Explanation of Tree Risk Levels

The three levels of tree risk assessment defined in the *ANSI A300 Tree Risk Assessment Standard* are:

I.   Level 1: Limited Visual Assessment

This level of assessment provides a visual assessment from a defined perspective (e.g., from the sidewalk, street, or aerial view) of an individual tree or population of trees to assess risk to specified targets from obvious defects or specified conditions.

Level 1 assessments are typically performed to quickly assess large populations of trees or conduct a rapid assessment of an individual tree. The assessor views only one side of the tree while walking on a sidewalk, being unable to access a neighboring property, looking from a slow-moving car, or from above with a drone, helicopter, or airplane.

A Level 1 assessment requires the client to identify the location and/or selection criteria of trees to be assessed. The assessor may:

1. Determine the most efficient route and document the route taken.
2. Assess the tree(s) within the area from the defined perspective (e.g., walk-by or drive-by).
3. Record the location of trees that meet the defined criteria (e.g., significant defects or other conditions of concern).
4. Evaluate the risk (risk rating is optional).
5. Identify trees requiring a higher level of assessment (Level 2 or Level 3) and/or prompt action.
6. Submit risk mitigation recommendations and/or a report.

Limitations: Level 1 assessments are the least thorough means of assessment. They are typically from one perspective, such as a walk-by, a drive-by, or aerial view. This level of assessment is most commonly used to prioritize higher-risk trees within larger groups of trees when there are budgetary, time, or other management constraints. Some defects or conditions will not be visible to the inspector, nor will all conditions visible at all times of the year; therefore, not all higher-risk trees will be accurately identified. In addition, the assessment may not provide enough information to assign a risk rating, make a risk mitigation recommendation, or determine residual risk.

II.   Level 2: Basic Assessment
A Level 2 assessment is a detailed visual inspection of a tree and its surrounding site and a synthesis of the information collected. It requires a 360° ground-based inspection around a tree, including the site conditions, visible buttress roots, trunk, branches, and crown.

The Level 2 assessment may include using tools such as binoculars, mallet, or probe at the discretion of the assessor or at the request of the owner/client.

At this level, the assessor may:

1. Locate and identify the tree or trees to be assessed.
2. Determine the targets and target zone for the tree or tree part(s) of concern.
3. Review the site history and conditions, and species failure profile.
4. Assess potential load on the tree and its parts.
5. Assess general tree health.
6. Inspect the tree visually which may include the use of common tools such as binoculars, mallet, probes, and/or shovels, as specified in the Scope of Work.
7. Record observations of site conditions, defects, indicators of internal defects, and response growth.
8. If necessary, recommend a Level 3 advanced assessment.
9. Analyze data to determine the likelihood of failure, likelihood of impact, and consequences of failure to evaluate the degree of risk.
10. Develop mitigation options and estimate residual risk for each option.
11. Recommend a re-inspection interval.
12. Prepare and submit a report.

Limitations: Level 2 assessments only include conditions and defects that can be detected from a ground-based visual inspection on the day of the assessment. Below-ground, internal, or upper-crown conditions, decay, and defects may not be detected.

III.   Level 3: Advanced Assessment
A Level 3 assessment is performed to provide detailed information about specific tree parts, defects, targets, or site conditions. These are usually conducted in conjunction with or after a Level 2 assessment with owner/client approval. Specialized equipment, data collection and analysis, and/or expertise are usually required for Level 3 assessments.

At this level, the assessor may:

1. Locate and identify the tree or trees to be assessed.
2. Determine the targets and target zone for the tree or tree part(s) of concern.
3. Review the site history and conditions, and species failure profile.

4. Assess potential load on the tree and its parts.
5. Assess general tree health.
6. Inspect the tree and/or site using advanced techniques as specified in the Scope of Work.
7. Record results from advanced techniques.
8. Analyze data to determine the likelihood of failure, likelihood of impact, and consequences of failure to evaluate the degree of risk.
9. Develop mitigation options and estimate residual risk for each option.
10. Recommend a re-inspection interval.
11. Recommend other advanced assessments, if necessary.
12. Prepare and submit a report.

*Items 1-5 may be included in the associated Level 2 assessment.

Procedures and Methodologies Often Used For Level 3 Assessments
Level 3 procedures and methodologies, which are referred to as technologies, may include:

Procedure	Methodology
Aerial inspection and evaluation of structural defects in upper stems and branches	• visual inspection from within the tree crown or from a lift • unmanned aerial vehicle (UAV) photographic inspection • decay testing of branches
Detailed target analysis	• property value of anything potentially impacted by tree failure • use and occupancy statistics • potential disruption of activities such as road blockage or an electrical outage
Detailed site evaluation	• history evaluation • soil profile inspection to determine root depth • soil mineral and structural testing
Decay and wood analysis	• increment boring • drilling with small-diameter bit • resistance-recording drilling • single path sonic (stress) wave • sonic tomography • electrical impedance tomography • radiation (radar, X-ray) • advanced analysis for pathogen identification
Health evaluation	• tree ring analysis (in temperate zone trees) • shoot length measurement • detailed health/vigor analysis • starch assessment
Root inspection and evaluation	• root and root collar excavation • root decay evaluation • ground-penetrating radar
Storm/wind load analysis	• detailed assessment of tree exposure and protection • computer-based estimations according to engineering models • wind reaction monitoring over a defined interval
Measuring and assessing the change in trunk lean	• visual documentation • digital level
Load testing	• hand pull • measured static pull • measured tree dynamics

Limitations: Level 3 assessments that include specialized technologies may have uncertainty and require qualified estimations. Exact measures may not be feasible.

Conclusion

Regardless of the level of assessment conducted, every assessment is limited to the trees identified in the scope of work, conditions detectable at the time of the assessment, the level of communication with the owner/client, and other conditions that affect the assessor's ability to collect information. Not all defects and conditions are detectable, and not all tree failures can be predictable. Trees are living organisms, and as such, every tree's structural conditions change over time.