

















# NYC Parks Level 2 Tree Assessment

## Field Guidelines

STEP 1	Ground Rules	STEP 2	Observable Tree Defects
Definitions, standards and methods to remember when conducting a L2 tree inspection.		Defects that are significant and occur on tree parts <b>two (2) inches</b> or greater in diameter.	
	<b>STEP BY STEP</b>  Evaluate each factor in the L2 assessment process independently. Don't jump ahead.		<b>NO VISIBLE DEFECT</b>  There is no visible deviation from normal that would reduce the tree's structural strength.
	<b>CLIMATE</b>  The L2 inspection assumes normal weather conditions for the region (one to many storms a year).		<b>POOR TREE ARCHITECTURE</b>  Growth pattern indicates structural imbalance or weakness in the branch, stem, or tree.
	<b>TIMEFRAME</b>  The L2 assumes a one-year time horizon for failure and occupancy rate, with the exception of 'imminent' likelihood of failure (7 days).		<b>DEAD WOOD</b>  Dead tree or branches of 4" diameter or greater.
	<b>MULTIPLE DEFECTS</b>  Most trees have more than one potential failure mode. Assess each tree for each defect that is significant.		<b>DECAY</b>  Wood that has rotted or is missing. Indicators of advanced decay are rotten wood, fungal fruiting bodies, cavities, holes, open cracks or bulges in the wood.
	<b>TARGET(S)</b>  Risk targets are people, critical access routes, and/or property that could be injured, disrupted, and/or damaged by a tree.		<b>CRACK</b>  A separation of the wood; a split through the bark into the wood. Recent crack elongation is an indicator of a higher likelihood of failure.
	<b>IMPACT ZONE(S)</b>  The area where a tree or branch is likely to land if it were to fail. The strike zone may include a part of the tree's dripline, or it can extend beyond in a predictable or unknown direction.		<b>CANKER</b>  An area where bark and cambium are dead. Canker that extends more than 30% of the circumference of the tree part has a great likelihood of failure.
	<b>OCCUPANCY RATE</b>  The amount of time a target is present in the target zone (over a typical 24-hour period averaged over a year). For episodic occupancy, consider the entire year unless failure is "imminent".		<b>ROOT PROBLEMS</b>  Inadequate anchoring by the root system, damaged roots, or stem girdling roots that could lead to tree decline and subsequent structural failure.



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MATRIX 1		Likelihood of Impacting Target			
Likelihood of Tree Failure		This is the chance of impacting a target within one year.			
		1 VERY LOW	2 LOW	3 MEDIUM	4 HIGH
This is the chance of a tree failure occurring within one year (with the exception of "imminent", below).		The failed tree or branch has a remote chance of impacting the specified target.	It is not likely that the failed tree or branch will impact the specified target.	The failed tree or branch may or may not (with nearly equal likelihood) impact the target.	The failed tree or branch will most likely impact the target.
<b>4 IMMINENT</b>		UNLIKELY <b>5</b>	SOMEWHAT LIKELY <b>6</b>	LIKELY <b>7</b>	VERY LIKELY <b>8</b>
Failure has started or is most likely to occur within 7 days even in absence of wind or increased load. Rare.					
<b>3 PROBABLE</b>		UNLIKELY <b>4</b>	UNLIKELY <b>5</b>	SOMEWHAT LIKELY <b>6</b>	LIKELY <b>7</b>
Failure may be expected under normal weather conditions.					
<b>2 POSSIBLE</b>		UNLIKELY <b>3</b>	UNLIKELY <b>4</b>	UNLIKELY <b>5</b>	SOMEWHAT LIKELY <b>6</b>
Failure could occur, but it is unlikely under normal weather conditions.					
<b>1 IMPROBABLE</b>		UNLIKELY <b>2</b>	UNLIKELY <b>3</b>	UNLIKELY <b>4</b>	UNLIKELY <b>5</b>
The failure is not likely during normal weather conditions and may not fail in many severe weather conditions.					

MATRIX 2							
Likelihood of Failure AND Impact							
		Consequences					
		The effects or outcomes of a tree failure event. A human impact that would cause NO injury cannot be significant or severe.					
1	NEGLIGIBLE	2	MINOR	3	SIGNIFICANT	4	SEVERE
This is the combined chance of a tree failure impacting a specified target within one year.		Low value property (bench, fence, street furniture, sidewalk, secondary electrical or communications lines) or disruption that can be repaired.		Moderate-value property damage (such as buildings, vehicles, play equipment, and electrical utility lines) or small disruptions to traffic or utilities.		High-value property damage, considerable disruption of emergency access route(s), or personal injury that is not serious or life threatening.	
		Serious personal injury or death or major disruption of critical emergency access route(s).					

VERY LIKELY	MODERATE	HIGH	HIGH	EXTREME
8	9	10	11	12
LIKELY	MODERATE	MODERATE	HIGH	HIGH
7	9	9	10	11
SOMEWHAT LIKELY	LOW	MODERATE	MODERATE	HIGH
6	7	8	9	10
UNLIKELY	LOW	LOW	MODERATE	MODERATE
5	6	7	8	9
UNLIKELY	LOW	LOW	LOW	LOW / MODERATE
2-4	3-5	4-6	5-7	6-8



# NYC Parks Level 2 Tree Assessment Field Guidelines

## Factor Reference Sheet

Factor 1	Likelihood of Tree Failure
<i>The chance of a tree failure occurring within one year.</i>	
4	<b>IMMINENT</b> Failure has started or is most likely to occur within 7 days even in absence of wind or increased load. Rare.
3	<b>PROBABLE</b> Failure may be expected under normal weather conditions.
2	<b>POSSIBLE</b> Failure could occur, but it is unlikely under normal weather conditions.
1	<b>IMPROBABLE</b> The failure is not likely during normal weather conditions and may not fail in many severe weather conditions.

Factor 2	Likelihood of Impacting Target
<i>The chance of impacting a target within one year.</i>	
4	<b>HIGH</b> The failed tree or branch will most likely impact the target.
3	<b>MEDIUM</b> The failed tree or branch may or may not (with nearly equal likelihood) impact the target.
2	<b>LOW</b> It is not likely that the failed tree or branch will impact the specified target.
1	<b>VERY LOW</b> The failed tree or branch has a remote chance of impacting the specified target.

Factor 2a	Occupancy Rate
<i>The amount of time that a target is in the target zone (consider 24-hours/day averaged over 1 year).</i>	
<b>NEAR CONSTANT (50 - 100%)</b>	
12+ hours	Fixed property or critical access routes (always in target zone), or mobile targets that are in the zone more than half of the time.
<b>FREQUENT (26 - 50%)</b>	
6-12 hours	The people, property, or access route is within the target zone one-quarter to one-half of a 24-hour period daily.
<b>OCCASIONAL (10 - 25%)</b>	
2.5-6 hours	The people, property, or access route is within the target zone more than 10% but less than 25% of the time.
<b>INFREQUENT (&lt;10%)</b>	
<2.5 hours	A target is within the zone less than 10% of the time.



Factor 3	Consequences
<i>The effects or outcomes of a tree failure event. A human impact that would cause NO injury cannot be significant or severe.</i>	
4	 <b>SEVERE</b> Serious personal injury or death or major disruption of critical emergency access route(s).
3	 <b>SIGNIFICANT</b> High-value property damage, considerable disruption of emergency access route(s), or personal injury that is not serious or life threatening.
2	 <b>MINOR</b> Moderate-value property damage (such as buildings, vehicles, play equipment, and electrical utility lines) or small disruptions to traffic or utilities.
1	 <b>NEGLECTIBLE</b> Low value property (bench, fence, street furniture, sidewalk, secondary electrical or communications lines) or disruption that can be repaired.

Result	Risk Rating
<i>Establishes risk levels and helps prioritize work. Risk ratings 7 and lower do not require action.</i>	
A	<b>12</b> <b>EXTREME</b> Failure is imminent, there is a high likelihood of impacting target, and consequences of failure are severe.
B	<b>10/11</b> <b>HIGH</b> Consequences are significant and likelihood is very likely or likely, OR consequences are severe and likelihood is likely.
C	<b>8/9</b> <b>MODERATE</b> Consequences are minor and likelihood is very likely or likely, OR likelihood is somewhat and consequences are significant or severe.
D	<b>3-7</b> <b>LOW</b> Consequences are negligible and likelihood is unlikely, OR consequences are minor and likelihood is somewhat likely.